

# The SOUTHERN ECONOMIC JOURNAL

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*Lee Bidgood -*

SECOND PRESIDENT OF THE SOUTHERN ECONOMIC ASSOCIATION, 1930-1931

**The SOUTHERN ECONOMIC JOURNAL**

January 1953

**A CRITIQUE OF SOME RECENT CONTRIBUTIONS TO  
THE THEORY OF CONSUMERS' SURPLUS**

R. W. PFOUTS

*University of North Carolina*

Introduction. I. Topics in the History of Consumers' Surplus. II. Some Recent British Contributions to the Theory of Consumers' Surplus. III. An American Controversy. IV. Hotelling's Formulation of Consumers' Surplus. V. Comparisons of Concepts of Consumers' Surplus.

Probably no single concept in the annals of economic theory has aroused so many emphatic expressions of opinion as has consumers' surplus; indeed even today the biting winds of scholarly sarcasm howl around this venerable storm-center. Yet there are indications that the storms are abating; perhaps a new epoch is approaching during which even the most placid of academic ruminants may browse serenely through the once-forbidding territory of consumers' surplus.

If the recession of the storms of controversy reveals a peneplain of understanding, it behooves economists to survey this territory as a possible site for future activities. The object of this paper is to complete a part of this survey, but before undertaking this task, I should like to recount briefly a part of the history of the concept of consumers' surplus.

## I

It is widely recognized that the first formulation of consumers' surplus was made by the French engineer, Jules Dupuit, in a series of papers that appeared in the "Annales des ponts et chaussees" and in the "Journal des Economistes."<sup>1</sup> Dupuit, following Smith and Ricardo, distinguished value in use and value in exchange,<sup>2</sup> upbraided J. B. Say for equating price with utility, and established a consumers' surplus concept by pointing out that the utility of an object is not changed by a change in price.<sup>3</sup> In addition Dupuit offered as a measurement of utility the maximum sacrifice the consumer would be willing to make to obtain the good.<sup>4</sup> He also formulated demand schedules and demand curves.<sup>5</sup>

<sup>1</sup> Dupuit, "De la mesure de l'utilité des travaux publics," *Annales des ponts et chaussees*, 1844. "De l'influence des péages sur l'utilité des voies de communication," *Annales des ponts et chaussees*, 1847. "De l'utilité et de sa mesure," *Journal des économistes*, 1853. All reprinted in *De l'utilité et De Sa Measure*, Mario De Bernardi, ed., *La Riforma Sociale*, Turin, 1934.

<sup>2</sup> *Ibid.*, p. 100.

<sup>3</sup> *Ibid.*, pp. 31-33.

<sup>4</sup> *Ibid.*, p. 109.

<sup>5</sup> *Ibid.*, p. 208.

Clearly Dupuit recognized the fundamental fact of consumers' surplus: That a consumer will sometimes be willing to pay more for a good than he is required to pay in the market. Consequently, in such cases, he gains a satisfaction for which he would be willing to pay, but for which he did not actually have to pay. Hence he has obtained a "free" satisfaction or a surplus.

Alfred Marshall deserves credit for introducing the concept of consumers' surplus to English-speaking economists. Marshall was familiar with the works of Dupuit, but was something less than generous in admitting Dupuit's priority.<sup>6</sup>

Marshall stated in an apparently unequivocal fashion his definition of consumer's surplus which is very similar to Dupuit's definition of utility:

The excess of price which he (a consumer) would be willing to pay rather than go without the thing, over that which he actually does pay, is the economic measure of this surplus satisfaction. It may be called consumer's surplus.<sup>7</sup>

It would seem clear that an all-or-none price is being compared with an equilibrium price in the preceding passage. Yet in the immediately succeeding pages of the *Principles* Marshall, "in order to give definiteness to our notions," offers as an example of consumer's surplus the area under the demand curve and above the expenditures rectangle.<sup>8</sup> Certainly definition and example are not mates.

The difference between the definition and the example may be seen by assuming that utility is measurable, as Marshall did, and by positing a marginal utility function  $p = f(x)$  where  $p$  is the marginal utility of money stated in terms of money, and  $x$  is the quantity of the good in question. In addition an equilibrium marginal utility of money stated in terms of money  $\bar{p}$  and an equilibrium quantity  $\bar{x}$  are needed. In considering the all-or-none offer, a consumer would be willing to pay a unit price equal to the mean utility of money over the interval from zero units to  $\bar{x}$  units, because the total utility of money expended would then be equal to the total utility of the goods obtained.

Total utility is given by the integral,  $\int_0^{\bar{x}} f(x) dx$ . Then "the excess of price which he would be willing to pay rather than go without the thing, over that which he actually does pay" is represented by the difference between the all-or-none price,  $1/\bar{x} \int_0^{\bar{x}} f(x) dx$ , and the equilibrium price  $\bar{p}$ . Hence consumer's surplus may be exhibited as

$$(1) \quad \frac{1}{\bar{x}} \int_0^{\bar{x}} f(x) dx - \bar{p}.$$

As here stated, consumer's surplus is a single dimension quantity and is in no way similar to the area under the Marshallian demand curve, unless Marshall was actually defining an increment to consumer's surplus rather than total

<sup>6</sup> Marshall mentions Dupuit in connection with consumers' surplus at only one point. Marshall, *Principles of Economics*, 8th ed., p. 476n.

<sup>7</sup> *Ibid.*, p. 124.

<sup>8</sup> *Ibid.*, pp. 125-128.

consumer's surplus. If this was his objective, he gave no indication of it. But even if Marshall was thinking of increments, definition and example do not square because the former is concerned with an ordinate under an all-or-none demand curve while the latter is concerned with the area under a Marshallian demand curve.

Having stated his arguments on consumer's surplus, Marshall laid bare a portion of his assumptions. He assumed that interpersonal utility comparisons could be made, he made the usual *ceteris paribus* assumptions, and he assumed that the marginal utility of money was constant.<sup>9</sup> In addition there is an implicit assumption that the demand for the commodity in question is independent of prices and quantities of other goods, since Marshall always stated his demand schedules in terms of only the good in question. And, finally, there is a never stated assumption that utility is measurable.

If Marshall is taken at his word that the marginal utility of money should be considered as constant, expression (1) can be simplified by letting  $m$  represent this constant marginal utility of money, then consumer's surplus may be represented by the expression,  $m\bar{x} - p\bar{x}$ . Or if total consumer's surplus is desired, consumer's surplus =  $m\bar{x} - p\bar{x}$ . It would appear that ordinarily this expression would equal zero.

Professor Robert L. Bishop has discerned a third definition of consumers' surplus in Marshall's writings. This third definition offers the area lying under a marginal utility curve and above the "effective utility" rectangle as a measure of consumers' surplus.<sup>10</sup> Effective utility is the product of marginal utility and the number of the units of the good consumed. I am unable to find an explicit statement of this definition in the *Principles*, but it seems clear that Bishop is correct because, at several points in Book III, Marshall apparently contends that a marginal utility curve is the same as a demand curve.<sup>11</sup> If this was Marshall's belief, then the third definition arises from the example of consumers' surplus as the area under a demand (marginal utility) curve. Developments since Marshall's time make it elementary that the marginal utility curve and the demand curve are not the same thing.

More explicit support for the third definition appears in the Mathematical Appendix of the *Principles*. Marshall specifies a demand curve,  $y = f(x)$ ,  $y$  being price and  $x$  being quantity. Then, argues Marshall, if  $a$  units are consumed, total utility is measured by  $\int_0^a f(x) dx$ .<sup>12</sup>

Marshall came close to a correct generalization of consumers' surplus when he stated that "the total utility of income . . . may be represented by  $\sum \int_0^a f(x) dx$ , if we could find a plan for grouping together in one common demand curve all

<sup>9</sup> *Loc. Cit.*

<sup>10</sup> Bishop, "Consumer's Surplus and Cardinal Utility," *Quarterly Journal of Economics*, v. 57 (1942-43), p. 422.

<sup>11</sup> Cf. Marshall, *Op. Cit.*, pp. 92-93, 124-126.

<sup>12</sup> *Ibid.*, p. 841.

those things which satisfy the same wants and are rivals; and also for every group of things of which the services are complementary. But we cannot do this. . . ."<sup>13</sup> In this respect, as in so many others, Marshall's failure to recognize the necessity for using demand functions for related commodities robs his work of realism.

In spite of the difficulties mentioned above, Marshall deserves praise for bringing before economists the fact that marginal utility alone is not dependable in assessing total utility, that some excess of utility, however measured, is gained by the consumer in most purchases. It is manifestly clear that Marshall understood the basic economic fact that the consumer ordinarily gains utility above his "effective utility." The fact that Marshall lent his prodigious prestige to the concept forced British and American economists to at least give it serious consideration.

## II

The past fifteen years have witnessed a series of advancements in the theory of welfare economics that has brought with it a renewed interest in consumers' surplus. Several pioneers have made contributions, and, while I shall not attempt a chronological exposition, I shall begin with one of the early contributors, Professor J. R. Hicks. As early as 1940 Hicks recognized the importance of consumers' surplus for the modern theory of welfare economics.<sup>14</sup>

In this early discussion of consumers' surplus, Hicks explicitly accepted Marshall's assumptions of *ceteris paribus*, and of money with a constant marginal utility. He considered the area beneath the demand curve and above the expenditure rectangle as the measure of consumers' surplus. Even if the assumptions are not fulfilled, this measure would be valid if the demand curve is corrected for changes in real income, i.e. for changes in the marginal utility of money. But Hicks regards this as a "fiddling business," and the Marshallian apparatus is used.<sup>15</sup> He is careful to point out that collective consumers' surplus is the area under a market demand curve, while individual consumer's surplus is the area under an individual demand curve, and that collective consumers' surplus tells us nothing about how the surplus is divided among individuals.<sup>16</sup>

Consumers' surplus, according to Hicks, is useful in particular or partial welfare economics. This type of welfare economics presumably bears the relation to general welfare economics that partial equilibrium bears to general equilibrium.

Hicks states clearly the manner in which Marshall's consumers' surplus fits into partial welfare economics. "An optimum organization of production is one in which there are no further opportunities for improvements." Consumers' surplus enables us to study deviations from the optimum in a particular market.

<sup>13</sup> *Ibid.*, p. 842.

<sup>14</sup> Hicks, "The Rehabilitation of Consumer's Surplus," *Review of Economic Studies*, v. VIII (1940-1941), pp. 108-116.

<sup>15</sup> *Ibid.*, p. 109.

<sup>16</sup> *Ibid.*, p. 110.

The deviations from the optimum fall into two classes: those in which there is a previous establishment of optimum conditions in related markets, and those in which there is no related optimum.<sup>17</sup>

In the former situation one may make use of the ordinary supply and demand curves to obtain the area under the demand curve and above the price line to measure consumers' surplus. Any change that increases consumers' surplus is desirable.<sup>18</sup>

When related industries are not perfectly competitive, the second situation prevails, i.e. there is no previous establishment of an optimum situation in these related industries. Suppose then that a contraction occurs in the given industry. Factors will be transferred elsewhere and additional surpluses will be generated in other industries. This is equivalent to an increase in social costs, i.e. opportunity costs. In Fig. 1 the broken curve  $ss'$  is the supply curve with social costs

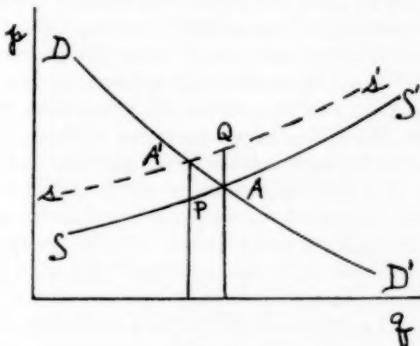


Fig. 1

included. The equilibrium point is  $A$ , the intersection of the demand and supply curves, but the optimum point is  $A'$ ; consequently a tax that would change output from  $A$  to  $A'$  would increase consumers' surplus by causing a transfer to other industries where additional surpluses would come into existence. The social gain from such a tax would be equal to  $AQA'$ , the amount of negative consumers' surplus, or the difference between  $AQA'P$  and  $APA'$ . Hicks notes that this is the basis of Marshall's famous suggestion that increasing returns industries be subsidized and decreasing returns industries be taxed.<sup>19</sup>

A different way of viewing the problem would be to notice that if there is imperfect competition in related industries, factors may ordinarily be procured more cheaply than if perfect competition prevails, because production will be restricted to take advantage of the imperfectly competitive possibilities. In this case marginal costs are less than true opportunity or social costs. This seems

<sup>17</sup> *Ibid.*, p. 112.

<sup>18</sup> *Ibid.*, pp. 113-114.

<sup>19</sup> *Ibid.*, pp. 114-115.

to me to be more straightforward than making the supposition that a contraction occurs in the given industry.

Hicks recapitulated his argument by saying that if imperfect competition prevails in the related industries the marginal cost curve is not the social cost curve and therefore a correction needs to be introduced. Social surplus = consumers' surplus + producers' surplus - loss of potential surplus in other industries.<sup>20</sup> The last term is the needed correction term.

Probably no serious criticism can be leveled against Hicks' use of consumers' surplus. It is strongly reminiscent of both Marshall and Pigou; it is a synthesis of aspects of the writings of both.

If Hicks' use of consumers' surplus is impeccable, his concept of it is not. Hicks assumed the usual Marshallian conditions, then postulated two types of deviations from the optimum. Both types of deviations are based on industries related to the industry in question and on the transfer of factors among the industries, but *ceteris paribus* had been explicitly assumed. How can the necessary interactions between industries take place if other things are remaining equal? Actually the difficulty is one of terminology rather than one of logic; we hold certain quantities constant and then release our grasp when we want the interaction to take place. The entire adventure serves to illustrate the necessity of specifying not only what is "impounded in *ceteris paribus*," but also when.

While Hicks was rehabilitating consumers' surplus, Professor A. Henderson was explaining an error in regard to consumers' surplus that appeared in *Value and Capital*; the paper of Hicks just reviewed and Henderson's paper appeared side by side in the same issue of the same journal.<sup>21</sup> Henderson pointed out that Hicks was not applying Marshall's definition of consumers' surplus, but was using one of his own and acting as if the two were equivalent. Hicks had written ". . . the best way of looking at consumer's surplus is to regard it as a means of expressing, in terms of money income, the gain which accrues to the consumer as a result of a fall in price. Or better, it is the compensating variation in income whose loss would just offset the fall in price, and leave the consumer no better off than before."<sup>22</sup>

Hicks' definition is not the same as Marshall's, Henderson maintains, because Marshall's definition specifies the extra expenditure the consumer would make rather than go without the amount of the good he is currently consuming; this is the all-or-none offer alluded to above in section I. Hicks' definition, on the other hand, refers to the extra expenditure the consumer would make for the privilege of buying any desired amount of the good. Hicks' quantity is referred to as the compensating variation, while Marshall's is designated as consumer's surplus. The compensating variation is larger than consumer's surplus, except in the case of inferior goods, because a license to buy any desired amount is more valuable than a license to buy only a specified amount.<sup>23</sup>

<sup>20</sup> *Ibid.*, p. 116.

<sup>21</sup> Henderson, "Consumer's Surplus and the Compensating Variation," *Review of Economic Studies*, v. VIII (1940-41), pp. 117-121.

<sup>22</sup> Hicks, *Value and Capital*, Oxford University Press, 1939, pp. 40-41.

<sup>23</sup> Henderson, *op. cit.*, p. 117.

Henderson makes use of an indifference map (Fig. 2) to illustrate the distinction between consumer's surplus and the compensating variation. Money is measured along the vertical axis, and some good  $X$  is measured along the horizontal axis;  $I_1$  and  $I_2$  are indifference curves. If  $OM$  is the consumer's income and the price of  $X$  is indicated by the slope of  $P''P$ ,  $MF$  units of  $X$  will be consumed with a total expenditure of  $FP$ . But the consumer receives more utility from being able to buy good  $X$  than he would receive if he spent  $FP$  on other goods, because  $I_2$  is above  $I_1$  on the indifference map. The surplus utility is

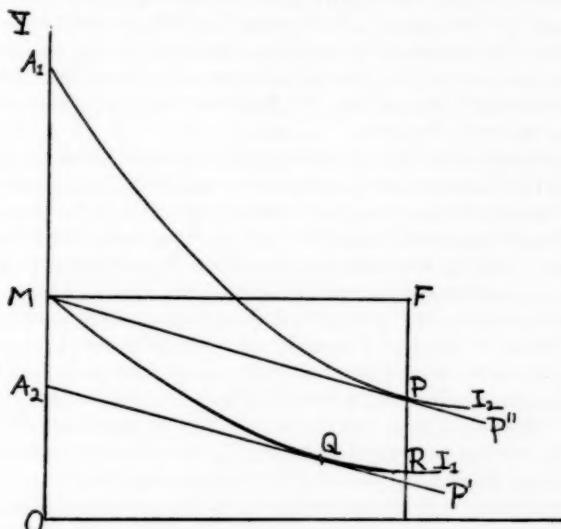


Fig 2

the Marshallian consumer's surplus and is designated in Fig. 2 by the distance  $PR$ ; it is the extra expenditure the consumer would make to have the privilege of buying  $MF$  units of  $X$ .

The compensating variation is the largest sum the consumer would pay for the privilege of purchasing  $X$ . It may be found by constructing the line  $P'$  parallel to  $P''P$  and tangent to  $I_1$ , the indifference curve through  $M$ . The equilibrium for this situation is indicated by  $Q$  in Fig. 2; at this point the consumer is indifferent between consuming the designated quantity of  $X$  and retaining the income  $OM$ . Therefore  $MA_2$ , the reduction of income that would reduce total satisfaction as much as the denial of the privilege of purchasing  $X$ , is the compensating variation. By inspection  $MA_2$  is greater than  $PR$ .<sup>24</sup>

Hicks' definition is stated in terms of the amount of money that offsets a

<sup>24</sup> *Ibid.*, p. 119.

price change rather than in terms of the maximum sum the consumer would pay for the privilege of purchasing any desired amount of the good in question. That the two are the same may be seen by considering, e.g., a price decline for a single good. In such a case increased units of the good will be purchased by an expenditure less than the consumer would pay if he spent an amount equal to the total gain of utility. Hence the compensating variation is the difference between the money value of the total utility gain and the money actually expended for the additional units of the good. Therefore it is the maximum amount the consumer would pay for the privilege of purchasing the additional units, and it is the amount of money that would exactly nullify his utility gain. It would seem clear that the compensating variation compares two levels of consumption and obtains a measurement of the utility above "effective utility" for the difference in the levels of consumption. Of course one of the levels of consumption may be zero units of the good.

The compensating variation is measured differently depending on where one starts on the indifference map. If, instead of considering the compensating variation as the amount the consumer would pay for the right to purchase  $X$ , we consider it to be the amount he must be paid to forego consumption of  $X$ , then starting from  $P$  in Fig. 2 and moving up the indifference curve to zero units of  $X$ , we find the compensating variation to be  $MA_1$ . The subjective satisfaction is the same in the two cases because in the former case the consumer is penalized  $MA_2$  but allowed to purchase a quantity of  $X$ , while in the latter case he must give up his consumption of  $X$  and receive the compensation  $MA_1$  in return. The difference in measurement arises from a different regard for money in the two situations. If the slopes of  $I_1$  and  $I_2$  were everywhere equal, i.e. if the marginal rates of substitution between money and  $X$  were the same on  $I_1$  and  $I_2$  for any quantity of  $X$ ;  $MA_1$ ,  $MA_2$  and  $PR$  would all be equal.<sup>25</sup>

Should consumers' surplus be used or should the compensating variation be used? The answer, according to Henderson, depends on the problem. Consider one of Dupuit's problems of whether or not a bridge should be built. If the toll revenues are not sufficient to cover the costs of the bridge, how much is it worth to supplement the tolls? If the supplement is to come from a poll tax on users of the bridge, then  $MA_2$  of Fig. 2, the compensating variation should be used. This is true because  $MA_2$  is the value of the privilege of purchasing any desired amount; it is the value of a license to purchase. If the money is to come from public funds,  $PR$  in Fig. 2 is the appropriate amount. If no toll is charged, use of the bridge is independent of income and the two quantities are the same. Henderson adds that inexactnesses of measurement and the similarity of the concepts would render the question of choosing between the two academic in most cases.<sup>26</sup>

<sup>25</sup> *Ibid.*, p. 119. Also for a brief but lucid discussion of the same quantities see Bernard Haley, "Value and Distribution" in *A Survey of Contemporary Economics*, H. S. Ellis, ed., Philadelphia, 1948, pp. 3-5.

<sup>26</sup> *Ibid.*, p. 121.

Hicks quickly recognized the merits of Henderson's arguments and their possible importance to welfare economics.<sup>27</sup> He accepted and restated with greater generality the arguments of Henderson. For greater clarity he gave the name, equivalent variation, to the second of the two compensating variations, that in which the consumer is given a sum to compensate him for eschewing consumption of the good. The equivalent variation in Fig. 2 is the distance  $MA_1$ .

It is sometimes contended in welfare economics that for an improvement to occur, gainers should gain sufficiently to compensate the losers and still show a net gain. The compensating variation shows the amount of gain that can be taken from a gainer without a net loss in satisfaction resulting. For this reason Hicks believes the compensating variation is superior to the Marshallian quantity and prefers to generalize the compensating variation rather than consumers' surplus.<sup>28</sup>

Two additional variations, the Laspeyre and the Paasche variations were defined by Hicks. The Laspeyre variation is the change of income sufficient to permit the purchase of the first set of goods at a second set of prices. The Paasche variation is the change of income sufficient to permit the purchase of a second set of goods at the first set of prices. The Laspeyre and Paasche variations are named for the well known index number formulae and have little relevance to consumers' surplus except that it may occasionally be convenient to state other quantities in terms of these two variations. It should be noticed that if income is changed by the amount of the Laspeyre variation the original set of goods will not in fact be purchased; this is true because changes in relative prices will cause substitutions between goods. And, of course, there is no way to reverse time to allow the purchase of the second period goods in the first period as would be necessary for the Paasche variation to describe an actual situation. In other words these variations do not describe equilibrium situations.<sup>29</sup>

Hicks developed the concepts outlined above and other concepts related to consumers' surplus with greater generality than I have thus far indicated.<sup>30</sup> For example, in an appendix to the second edition of *Value and Capital*, he pointed out that if the price of a commodity is reduced, the compensating variation, the change of income necessary to offset the price change, must be greater than the difference in cost between a purchase of the first quantity at the second price and the purchase of the first quantity at the first price. If one good is reduced in price from  $p$  to  $p + dp$ , the compensating variation is greater than  $-xdp$ ,  $x$  being the first quantity of the good. When more than one price falls, the com-

<sup>27</sup> Hicks, "Consumer's Surplus and Index Numbers," *Review of Economic Studies*, v. IX (1941-42), pp. 126-137.

<sup>28</sup> *Ibid.*, p. 127.

<sup>29</sup> Hicks does not take notice of this fact. These are basic difficulties in both the Laspeyre and Paasche index number formulae. In the case of the former it is necessary to maintain the fiction that the goods purchased in the base year are also purchased in the given year. In the case of the latter it is necessary to maintain the fiction that the goods purchased in the given year were also purchased in the base year.

<sup>30</sup> Hicks, "The Four Consumer's Surpluses," *Review of Economic Studies*, v. XII (1944), pp. 31-41.

pensating variation must be greater than  $-\sum xdp$ . This must be true because, as the price or prices fall, the same quantity of goods as before could be bought, so the consumer could be no worse off. At the same time there are substitution opportunities open to him that were not previously open to him; then if he is to be no better off, he must lose more than  $-\sum xdp$ .<sup>21</sup>

Hicks attempted a more rigorous demonstration of the proposition discussed immediately above, but unfortunately he made an error that affected his result. The derivation of the general compensating variation that follows is, I believe, the correct one.

For an individual consumer, let the quantities of the various goods consumed be  $x_1, x_2, \dots, x_n$ ; and let their prices be  $p_1, p_2, \dots, p_n$ ; the prices being fixed from the standpoint of the individual. Let the utility function be indicated by

$$(2) \quad u = u(x_1, x_2, \dots, x_n).$$

If  $M$  is total income and all income is spent,

$$(3) \quad M = \sum_{r=1}^n p_r x_r.$$

If satisfaction is to be maximized, the partial derivatives of

$$G = u(x_1, x_2, \dots, x_n) - \mu \left( \sum_{r=1}^n p_r x_r - M \right)$$

must be set equal to zero. Hence

$$\frac{\partial G}{\partial x_r} = u_r - \mu p_r = 0,$$

where

$$u_r = \frac{\partial u}{\partial x_r}.$$

Consequently

$$(4) \quad u_r = \mu p_r,$$

$\mu$  being the marginal utility of money, if utility is considered to be measurable.

It is also necessary that

$$(5) \quad \begin{vmatrix} 0 & p_1 & p_2 & \cdots & p_n \\ p_1 & u_{11} & u_{12} & \cdots & u_{1n} \\ \cdot & \cdot & \cdot & & \cdot \\ \cdot & \cdot & \cdot & & \cdot \\ p_n & u_{n1} & u_{n2} & \cdots & u_{nn} \end{vmatrix}$$

contain principal minors that are alternately negative and positive.

We wish to find an expression for the compensating variation for a general price change. The compensating variation is the change in income that offsets

<sup>21</sup> Hicks, *Value and Capital*, 2nd ed., 1946, p. 330.

a price change, i.e. that leaves utility the same after the price change as before the price change. This income change may be found by stating the change of income that would occur with a price change subject to the condition that utility be unchanged.

Then the total differential

$$(6) \quad dM = \sum_{r=1}^n \frac{\partial M}{\partial p_r} dp_r + \frac{1}{2} \sum_{s=1}^n \sum_{r=1}^n \frac{\partial^2 M}{\partial p_r \partial p_s} dp_r dp_s + \dots$$

will express the desired income change provided<sup>22</sup>

$$(7) \quad du = \sum_{r=1}^n \sum_{s=1}^n u_s \frac{\partial x_s}{\partial p_r} dp_r = 0.$$

Substituting from (4) we obtain

$$du = \mu \sum_{r=1}^n \sum_{s=1}^n p_s \frac{\partial x_s}{\partial p_r} dp_r = 0.$$

Equation (3) yields

$$\frac{\partial M}{\partial p_r} = x_r + \sum_{s=1}^n p_s \frac{\partial x_s}{\partial p_r},$$

and

$$\frac{\partial^2 M}{\partial p_r \partial p_s} = \frac{\partial x_r}{\partial p_s} + \frac{\partial x_s}{\partial p_r} + \sum_{t=1}^n p_t \frac{\partial^2 x_t}{\partial p_r \partial p_s}.$$

Substituting the last two into (6) we obtain

$$dM = \sum_{r=1}^n \left( x_r + \sum_{s=1}^n p_s \frac{\partial x_s}{\partial p_r} \right) dp_r + \frac{1}{2} \sum_{s=1}^n \sum_{r=1}^n \left( \frac{\partial x_r}{\partial p_s} + \frac{\partial x_s}{\partial p_r} + \sum_{t=1}^n p_t \frac{\partial^2 x_t}{\partial p_r \partial p_s} \right) dp_r dp_s.$$

From (4) and (7)

$$\sum_{r=1}^n \sum_{s=1}^n p_s \frac{\partial x_s}{\partial p_r} dp_r = 0.$$

Therefore

$$dM = \sum_{r=1}^n x_r dp_r + \frac{1}{2} \sum_{s=1}^n \sum_{r=1}^n \left( \frac{\partial x_r}{\partial p_s} + \frac{\partial x_s}{\partial p_r} \right) dp_r dp_s + \frac{1}{2} \sum_{s=1}^n \sum_{r=1}^n \frac{\partial^2 x_s}{\partial p_r \partial p_s} dp_s dp_r.$$

<sup>22</sup> It is at this point that Hicks goes wrong; *ibid.*, p. 331. He states that the constancy of utility requires that

$$0 = \frac{\partial u}{\partial p_r} = \sum_s u_s \frac{\partial x_s}{\partial p_r}.$$

Mathematically this statement is not objectionable, but as economics it is wrong, because we do not want to say that a change in the price of good  $r$  does not affect utility. Instead we want to compensate for the utility changes brought about by price changes. Equation (7) is the correct statement.

If the consumer is rational,

$$\frac{\partial x_r}{\partial p_s} = \frac{\partial x_s}{\partial p_r};$$

whence we obtain

$$(8) \quad dM = \sum_{r=1}^n x_r dp_r + \sum_{s=1}^n \sum_{r=1}^n \frac{\partial x_r}{\partial p_s} dp_r dp_s + \frac{1}{2} \sum_{s=1}^n \sum_{r=1}^n \frac{\partial^2 x_s}{\partial p_s \partial p_r} dp_r dp_s.$$

In the Slutsky-Hicks fundamental equation<sup>23</sup>

$$\frac{\partial x_r}{\partial p_s} = -x_s \frac{\partial x_r}{\partial M} + \bar{X}_{rs}.$$

The first term of the right member is the income effect and the second term is a symbol denoting the substitution effect. Since the object of the price compensating variation is to alter the consumer's income so that he remains in the same indifference locus despite the price change, only substitution effects are possible; there can be no income effect. Therefore, when the compensating variation is under consideration, the Slutsky-Hicks equation reduces to

$$\frac{\partial x_r}{\partial p_s} = \bar{X}_{rs}.$$

Equation (8) may be rewritten as

$$(9) \quad dM = \sum_{r=1}^n x_r dp_r + \sum_{s=1}^n \sum_{r=1}^n \bar{X}_{rs} dp_r dp_s + \frac{1}{2} \sum_{s=1}^n \sum_{r=1}^n \frac{\partial \bar{X}_{rs}}{\partial p_s} dp_r dp_s.$$

The first term of the right member represents the change of income necessary to permit continued purchase of the original quantities of the goods. The second term shows the substitution opportunities available to the consumer as a result of the price changes. The last term shows the secondary substitution effects since a general price change is being considered. A change in the price of a good causes substitution between that good and a second good; this is the substitution effect. Now a change in the price of the second good causes additional substitution between the two; this is the secondary substitution effect.

That Henderson and Hicks have made valuable contributions to the theory of consumers' surplus would seem beyond question. They have formulated new concepts and clarified the Marshallian concept. In addition Hicks has formulated his thoughts with laudable rigor.

### III

On the American side of the Atlantic a discussion of consumers' surplus was started by Professor Frank Knight when he published a paper entitled "Realism and Relevance in the Theory of Demand." This is indeed a promising title.<sup>24</sup>

<sup>23</sup> See *Value and Capital*, 2nd ed., pp. 307-309.

<sup>24</sup> Knight, "Realism and Relevance in the Theory of Demand," *Journal of Political Economy*, v. LII (1944), pp. 289-318.

The most arresting aspect of Knight's article, in my opinion, is its scope. Within a space of thirty pages he discusses the Slutsky-Hicks theory of demand, the theory of indifference curves, the concept or "law" of diminishing marginal utility, consumer behavior and the theory of production, the measurability of utility and the measurability of physical phenomena, the theory of the demand curve, and consumers' surplus.

Knight begins his formulation of a "realistic" demand curve by asserting that the Slutsky school of thought has erred in varying price of a good  $X$  with the prices of all other goods. This is incorrect because it throws the "price effect" and the "income effect" together and then proceeds to separate them. The proper procedure, Knight urges, is to draw the demand curve in terms of relative prices, i.e. to assume that the value of money is held constant through compensating changes in the prices of other goods. The "spurious income effect" is merely a particular case of a change in the price level or in the purchasing power of money, and this problem should be reserved for consideration as a monetary rather than a value phenomenon. Although changes of this type may occur together, bringing them together unnecessarily is "mere gratuitous confusion." The correct assumption in drawing the demand curve is that utility and the objective purchasing power of money be kept constant.<sup>35</sup>

Can consumers' surplus be represented by the area under the demand curve? It cannot, according to Knight, because this area is without economic meaning.<sup>36</sup> Since area is merely a summation of ordinates, Knight has said that the ordinates of the demand curve when considered collectively are without economic content; this is equivalent to saying that the demand curve is without economic content.

#### What is the correct specification of consumers' surplus?

The problem of consumer's surplus is that of finding a monetary measure or expression for an increment of total satisfaction which accrues to a consumer through the opportunity to purchase a freely chosen amount of a particular good at a particular price in comparison to the situation where the good is not available and other conditions are the same.<sup>37</sup>

To find this monetary measure, Knight makes use of the diagram reproduced here as Fig. 3. X represents a good and Y represents money. Curve A is a marginal utility curve for X in terms of money, drawn under the assumption that the maximum price is paid for each unit of X. Curve B is an all-or-none curve the ordinates of which show the maximum price the consumer would pay for any quantity of X if he must take that quantity or none. Triangle r is equal to triangle s to keep the total utility of money expended under the all-or-none condition equal to the sum of the marginal utilities given by curve A. Curve D is the demand curve and is not obtainable from the other two, according to Knight<sup>38</sup>.

<sup>35</sup> *Ibid.*, pp. 299-300.

<sup>36</sup> *Ibid.*, p. 315.

<sup>37</sup> *Ibid.*, p. 313.

<sup>38</sup> *Ibid.*, p. 314.

"Consumer's surplus as a subjective magnitude is the difference between the total satisfaction yielded by a particular good freely purchased at any price and that which would be secured by freely spending the same amount of money for other goods. . ." This, Knight believes, is identical with spending the money under "indifference conditions." To locate this quantity in Fig. 3, find the point  $t$  on  $B$  such that the area  $ox_1 t p_i$  is equal to the area of rectangle  $oxmp$ , the expenditures rectangle. Then the amount spent under free market conditions is equal to the amount spent under all-or-none conditions. To our amazement Knight then asserts that consumer's surplus is the truncated expenditures rectangle  $xnmx$ .<sup>39</sup> The distance  $x - x_1$  is the additional amount purchased under free market conditions that would not be purchased under the all-or-none conditions, but multiplying this by the equilibrium price does nothing to show the variation of total utility.

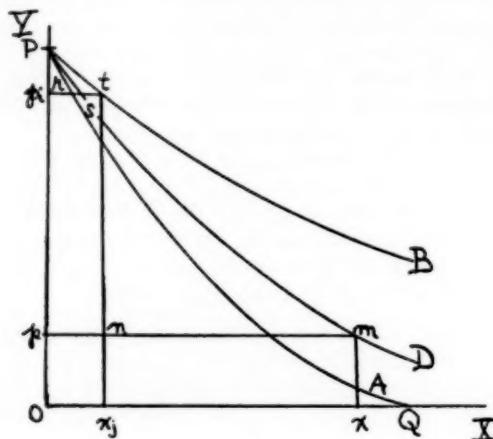


Fig. 3

Professor Knight's formulations of the demand curve and of consumers' surplus were challenged by Robert L. Bishop.<sup>40</sup> Actually Bishop discussed several of the topics covered in Knight's article, but we need consider only the theory of the demand curve and consumers' surplus.

If the demand curve showed the quantity of a certain good purchased, not with income and prices of other goods constant, but with offsetting price changes to keep total utility and the purchasing power of money constant, the income effect would not be present; the substitution effect only would be present.

<sup>39</sup> *Ibid.*, p. 315.

<sup>40</sup> Bishop, "Professor Knight and the Theory of Demand," *Journal of Political Economy*, v. LIV (1946), pp. 141-169.

Since any realistic demand function must describe actual situations, a demand curve of Knight's type could, as Bishop argues, be accepted as realistic only if there were a tendency for prices to behave in the manner described. If this tendency for price changes to offset each other does not occur, then Knight's formulation should be discarded.

As Bishop points out, a demand curve is an instrument of partial equilibrium analysis, and too much should not be expected of it. Such a general price change as Knight's curve needs could be established only through a most thorough-going general equilibrium analysis.<sup>41</sup>

Knight is also incorrect in considering the income effect to be a monetary phenomenon. The income effect may arise in two ways: by a change in the income of the consumer or by a change in the relative prices of the goods in the budget of the consumer.<sup>42</sup> It distinctly is not a monetary effect. If there were a price level change, with no change in relative prices there would be no relative change in the position of the consumer. The prices he pays would have changed, but his income would have changed in proportion.

Actually, Bishop suggests, Knight's demand curve is a monetary phenomenon, because adjustments in the circulating media would have to be made to keep purchasing power and total utility constant.<sup>43</sup>

If individual demand curves are to be useful, they must be capable of aggregation. In the case of Knight's curve this is clearly impossible because of the differences in personal tastes. A complete adjustment of the entire economy for each consumer would be called for to keep total utility constant. Since one thoroughgoing adjustment of the economy would have to be made for each consumer, the result of trying to formulate simultaneously the demand curves of all consumers would be a complete, profound, and impossible chaos. Bishop does not go far enough by merely remarking that aggregation of Knightian demand curves is impossible; if such curves were realistic, any kind of economic equilibrium or order would be impossible.<sup>44</sup>

Bishop also pointed out that the quantity Knight calls consumers' surplus is not related to the usual economic meaning of consumers' surplus. If X in Fig. 3 became a free good, one would expect consumers' surplus to become large. Inspection of Fig. 3 shows that Knight's quantity becomes small as the price falls and becomes zero when the price becomes zero. No matter what the conditions, Knight's quantity can never exceed the equilibrium expenditure. This demonstrates that Knight's notion is not related to the basic concept of consumers' surplus, i.e. that the consumer receives utility from a commodity greater than indicated by marginal utility.<sup>45</sup>

Knight published an answer to Bishop, but unfortunately most of the space is

<sup>41</sup> *Ibid.*, pp. 153-155.

<sup>42</sup> Hicks, *Value and Capital*, 2nd ed., pp. 307-309.

<sup>43</sup> Bishop, *Op. cit.*, pp. 155-156.

<sup>44</sup> *Ibid.*, p. 157.

<sup>45</sup> *Ibid.*, p. 164.

devoted to topics pertinent to the controversy but outside the scope of this paper.<sup>46</sup>

Knight did reassert his belief that the proper method of drawing the demand curve is to hold the value of money constant, while the price of a single good is varied. He offers little support for this view except a citation of a similar development in the works of John Stuart Mill.<sup>47</sup>

In the matter of the "spurious income effect," Knight retreated to a less spectacular but more tenable position. He admits the possibility of an income effect of the Slutsky-Hicks type but denies that it can be measured empirically.<sup>48</sup> Since, so far as I know, no one has suggested that it can be measured, the effect of Knight's point is not clear. In any event this is a far cry from his original position that at the theoretical level the income effect represents "gratuitous confusion."

Less specificity was forthcoming from Knight in regard to consumers' surplus. He states that in his opinion the concept is theoretically meaningful and holds forth the notion that one may define consumers' surplus in any meaningful way that he wishes.<sup>49</sup>

Among American economists who have investigated consumers' surplus must be listed Professor Paul A. Samuelson. Although Samuelson handles this topic with his usual brilliance, he gives relatively little attention to it, and I shall not review his contributions specifically. Most of the concepts that Samuelson discusses were also covered by writers cited elsewhere in this paper, although Samuelson approaches them in different and more general form.<sup>50</sup>

#### IV

An early modern conception of consumers' surplus quite different from those presented above was offered by Professor Harold Hotelling.<sup>51</sup> Hotelling's formulation is similar to Dupuit's and to Marshall's example. Hotelling's concept takes the form of a statement of net social benefit which is defined as the sum of consumers' surplus and producers' surplus or profit.

The consumers' surplus aspect of Hotelling's net social benefit takes the form of a generalization of Marshall's area under the demand curve and above the price line. The formulation begins by postulating market demand functions for  $n$  related commodities of the type,

$$p_i = f_i(x_1, x_2, \dots, x_n) \quad (i = 1, 2, \dots, n),$$

<sup>46</sup> Knight, "Comment on Mr. Bishop's Article," *Journal of Political Economy*, v. LIV (1946), pp. 170-176.

<sup>47</sup> *Ibid.*, p. 175.

<sup>48</sup> *Ibid.*, p. 176.

<sup>49</sup> *Loc. Cit.*

<sup>50</sup> Samuelson, *Foundations of Economic Analysis*, Harvard University Press, 1947, pp. 199-202. See also *Studies in Mathematical Economics and Econometrics*, Lange, McIntyre, and Yntema, eds., University of Chicago Press, 1942.

<sup>51</sup> Hotelling, "The General Welfare in Relation to Problems of Taxation and of Railway and Utility Rates," *Econometrica* v. 6 (1938), pp. 242-269.

where the  $p$ 's are prices and the  $x$ 's are quantities. Total benefit was defined as the line integral

$$\int (f_1 dx_1 + f_2 dx_2 + \cdots + f_n dx_n),$$

or the sum of the areas under the demand curves. Net social benefit may be found by using marginal cost functions,

$$g_i(x_1, x_2, \dots, x_n) \quad (i = 1, 2, \dots, n),$$

to obtain a generalized sum of consumers' and producer's surplus expressed by the line integral

$$(10) \quad \int \sum (f_i - g_i) dx_i,$$

or, if  $h_i = f_i - g_i$ , net benefit is given by

$$(11) \quad \int \sum h_i dx_i.$$

The limits of integration are taken from an arbitrary, presumably small, value to the quantity actually sold, this being done to preclude the possibility of the price of a necessary good becoming infinite as the quantity becomes small. As Hotelling points out, to insure a unique value of (10) or (11) it is necessary that the conditions,

$$\frac{\partial h_i}{\partial x_j} = \frac{\partial h_j}{\partial x_i},$$

be fulfilled. This condition guarantees that the order of integration is indifferent.<sup>52</sup> It is equivalent to an assumption of rationality of the consumers. In a previous paper Hotelling had demonstrated that such conditions are very likely fulfilled in a large class of cases.<sup>53</sup>

Integral (11) may be amended to show only consumers' surplus if equilibrium prices for all the goods are introduced. In this case it takes the form

$$(12) \quad \int \sum (f_i - \bar{p}_i) dx_i \quad (i = 1, 2, \dots, n),$$

where the  $\bar{p}$ 's are equilibrium prices.<sup>54</sup> The integral (12) is a generalization of Marshall's example of consumers' surplus as the area above the price line and below the demand curve. Hence integral (12) is a generalization of what most economists probably think of automatically as consumers' surplus.

This last conception of consumers' surplus is not directly dependent on the

<sup>52</sup> *Ibid.*, pp. 246-247.

<sup>53</sup> Hotelling, "Edgeworth's Taxation Paradox and the Nature of Supply and Demand Functions," *Journal of Political Economy*, v. 40 (1932), p. 590.

<sup>54</sup> Cf. R. W. Pflouts, "The Welfare Programming of Public Investment" (abstract), *Econometrica* v. 19 (1951), p. 341.

utility or preference functions of consumers. Consequently it need not be thought of as being tied to specific utility indicators. Since the prospects of obtaining specific utility indicators empirically are not promising, this is a distinct advantage.

The rationale of the Hotelling concept of consumers' surplus may be stated simply. For most consumers, more goods are better (or at least not worse) than fewer goods. Probably within relevant limits this assumption is generally acceptable. At lower prices a larger quantity of goods will be purchased than at higher prices. Barring the Giffen paradox, this statement is a theorem rather than an assumption; for large groups of consumers it may be true even if the Giffen effect is displayed by some subgroup of consumers. At any equilibrium price except the highest that any consumer would pay for a unit of the good, some consumers are getting units of the good for less than the maximum price they would pay for these units. Hence they are getting "extra" goods and "extra" satisfactions. This statement of the reasoning behind Hotelling's consumers' surplus oversimplifies the problem somewhat, especially in neglecting the demand relationships between goods.

## V

At this point it might appear that we are embarrassed by a plethora of definitions of consumers' surplus. Actually a little consideration will show that, with the exception of Knight's faulty definition, all of the definitions discussed are attempts to measure some aspect of the surplus satisfaction the consumer gets from purchasing goods at a price lower than the maximum he would pay if he had to.

Marshall's definition, but not his example, is the difference measured in money between the average utility gained from consuming goods, or the average utility of money and the marginal utility of money. It is, unfortunately, stated in terms of one good, and, of course, the assumption that utility is measurable is made. Nonetheless Marshall's definition is an index or function of total utility. Since the value of Marshall's consumers' surplus depends on average utility, it must also depend on total utility.

The Hicks-Henderson compensating and equivalent variations are indexes of changes in the level of utility, or satisfaction. As has been noted above, these variations measure the change in consumers' surplus with a change in consumption. For small changes a general form of these variations may be written as

$$(13) \quad dM = \frac{du}{\mu}.$$

Here  $dM$  is the income change that offsets the utility change that accompanies a change in the quantity of goods. The particular utility change is given by  $du$ , while  $\mu$  is the marginal utility of money, or it determines the particular indifference surface upon which the consumer is located. Hence it may easily be seen that the Hicks-Henderson variations are indexes of utility, but, more specifically, they are indexes of utility changes.

The Hotelling line integral representation of consumers' surplus is an index of total utility. This may be grasped intuitively by realizing that demand price depends on marginal utility. Hence the areas under demand curves, either individual or collective, must be a summation of functions of marginal utility, or they must be functions of total utility. The Hotelling integral, consequently, depends on total utility, but it does not imply that utility is measurable.

Another point of comparison may be established. Marshall's definition and the Hicks-Henderson variations all refer to individuals. The questions they answer are phrased as applying to a consumer. This is not true of Hotelling's integral; this integral refers to market demand functions and consequently is an index of total utility for collections of individuals.

Closely related to this last observation is the fact that Marshall's definition and the Hicks-Henderson variations depend on either utility or preference functions for individuals. For certain purely theoretical purposes this may be advantageous, but it virtually estops any attempts at empirical study of these quantities or any empirical study using these quantities.<sup>15</sup> On the other hand, Hotelling's integral makes use of demand functions for related goods. While the difficulties of empirical demand studies are great as yet, they are not so overwhelming as the difficulties of empirical studies of indifference functions. For this reason the Hotelling formulation is by much the most promising tool of empirical analysis.

<sup>15</sup> Cf. Milton Friedman and W. Allen Wallis, "The Empirical Derivation of Indifference Functions," *Studies in Mathematical Economics and Econometrics*, pp. 175-189.

## A NOTE ON MR. HARROD'S DYNAMIC MODEL

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The present-day concept of long-run dynamic growth may for the most part be attributed to R. F. Harrod.<sup>1</sup> Mr. Harrod first expressed his ideas in a journal article in 1939,<sup>2</sup> and then in 1948 he presented a more detailed and extended secular dynamic theory in his *Towards A Dynamic Economics*.

Several writers have discussed and elaborated Mr. Harrod's model in considerable detail.<sup>3</sup> The purpose of the present note is not to discuss the theory *per se*, but rather to take the theory as given and to consider it briefly in relation to the empirical experience of the United States during the prewar period. More specifically, the problem is to find out if the historical data seem to suggest values of the relevant parameters in Mr. Harrod's model which will lead to the type of behavior in aggregate real output as specified by the theory.

In order to establish a foundation for the discussion it is desirable to outline Mr. Harrod's theory very briefly in formal terms. As Professor Baumol has suggested, the model may be set up formally somewhat as follows.<sup>4</sup> Aggregate real saving is defined to be a linear function of aggregate real income,

$$(1) \quad S_t = \alpha Y_t, \quad Y_0 > 0$$

where  $\alpha$  is a parameter—the marginal propensity to save.

Entrepreneurial investment decisions are considered to depend on how rapidly aggregate real income (output) is changing,

$$(2) \quad I_t = \beta(Y_t - Y_{t-1}),$$

where  $\beta$  is a parameter—the accelerator coefficient, or what Mr. Harrod calls the *relation*.

Finally a definitional equation completes the system; actual saving equals actual (realized) investment,

$$(3) \quad S_t = I_t,$$

<sup>1</sup> Professor Domar's contribution, however, should not be overlooked. See his "Capital Expansion, Rate of Growth, and Employment," *Econometrica*, 14: 137-48, April, 1946; and also "Expansion and Employment," *American Economic Review*, 37: 34-55, March, 1947.

<sup>2</sup> R. F. Harrod, "An Essay in Dynamic Theory," *Economic Journal*, 49: 14-33, March, 1939.

<sup>3</sup> E.g. Sidney S. Alexander, "Mr. Harrod's Dynamic Model," *The Economic Journal*, 60: 724-39, December, 1950; William J. Baumol, "Formalisation of Mr. Harrod's Model," *The Economic Journal*, 59: 625-29, December, 1949; and William J. Baumol, *Economic Dynamics* (New York: Macmillan Company, 1951), pp. 36-54, 150-60, 204-6.

<sup>4</sup> See W. J. Baumol, *Economic Dynamics*, pp. 36-54. The outline of the model presented in the text above is very brief; consequently several interesting and rather important details are not mentioned. Professor Baumol discusses these points in his *Economic Dynamics*, pp. 36-54.

or,

$$(4) \quad \begin{aligned} \alpha Y_t &= \beta(Y_t - Y_{t-1}) \\ -\alpha Y_t &= -\beta Y_t + \beta Y_{t-1} \\ (\beta - \alpha) Y_t &= \beta Y_{t-1} \end{aligned}$$

$$(5) \quad Y_t = \frac{\beta}{\beta - \alpha} Y_{t-1}.$$

At this point it is clear that the model cannot, in a sense, be subjected to rigorous statistical analysis, especially using methods developed by the Cowles Commission.<sup>5</sup> In the first place the relations in the model are assumed to hold exactly; i.e., the relations do not include random variables with specified probability distributions. In the second place it is clear from equation (5), which expresses the model in a "reduced form," that the system is not identified. This means that "statistical analysis" would give an estimate of  $\beta/(\beta - \alpha)$ , but that it would then be impossible to solve for estimates of the structural parameters  $\alpha$  and  $\beta$ . Thus any empirical analysis of the model must of necessity be very crude. This is indeed the case in what follows below.

Further manipulation of equation (5) is necessary in order to investigate the possible types of behavior of the model over time. Equation (5) is a simple first-order difference equation with a constant coefficient  $\beta/(\beta - \alpha)$ . For convenience let

$$K = \frac{\beta}{\beta - \alpha},$$

then equation (5) becomes

$$(6) \quad Y_t = K Y_{t-1}.$$

This equation is readily solved, and the general solution is<sup>6</sup>

$$(7) \quad Y_t = Y_0 K^t,$$

where  $Y_0$  is the initial condition, i.e.,  $Y_0$  is aggregate real output at time  $t = 0$ . Obviously  $Y_0$  must be positive in a practical situation. Once  $Y_0$  is given and a value of  $K$  is specified, then equation (7) enables one to calculate Mr. Harrod's "warranted" aggregate real output for any future time period  $t$ .

Now assuming that  $Y_0 > 0$ , the general behavior of  $Y_t$  over time depends only on the value of  $K$ . There are six possible cases:

(1)  $K = 1$ :  $Y_t$  will equal  $Y_0$  for all future time periods,  $t$ .

(2)  $K > 1$ :  $Y_t$  will increase without limit and by ever-increasing amounts as time passes.<sup>7</sup>

<sup>5</sup> For a presentation and discussion of these methods see T. C. Koopmans, *Statistical Inference in Dynamic Economic Models* (New York: John Wiley and Sons, 1950).

<sup>6</sup> For details of the solution see Baumol, *op. cit.*, pp. 150-54. Also for a general discussion of methods of solving simple difference equations see P. A. Samuelson, "Dynamic Process Analysis" in *A Survey of Contemporary Economics* (Philadelphia: Blakiston Company, 1948), pp. 352-84.

<sup>7</sup> Since the analysis is in terms of discrete time periods, the graph of the behavior of

- (3)  $0 < K < 1$ :  $Y_t$  will decrease over time by ever-decreasing amounts, approaching zero as a limit.
- (4)  $K = -1$ :  $Y_t$  will be alternately  $-Y_0$  and  $+Y_0$  period after period.
- (5)  $-1 < K < 0$ :  $Y_t$  will oscillate around the zero base line, with the oscillations approaching zero as a limit as time passes.
- (6)  $K < -1$ :  $Y_t$  will experience "explosive" oscillations around the zero base line.

The conclusions from Mr. Harrod's analysis imply that aggregate real output must behave as in case (2) above if the system is to move along smoothly in such a way that realized investment is always equal to desired investment.<sup>8</sup> When output is behaving as in case (2), it is said to be expanding at the "warranted" rate of growth. This is the rate of growth that must be maintained if booms and depressions are to be avoided. That the warranted rate of growth *cannot* be maintained is, according to Mr. Harrod, due to the existence of an upper bound to the expansion of output. This upper limit arises because of the scarcity of employable resources and it determines the "natural" rate of growth of aggregate real output. Since it is very probable that the natural rate of growth may prevent the warranted rate from being maintained indefinitely, the conclusion is that crises are likely to occur from this source alone, even if all other factors are favorable for sustained growth at the warranted rate.

With the preceding rather lengthy "introduction" out of the way, the principal objective of this note may now be considered. If the warranted rate of growth in  $Y_t$  is to be that suggested in case (2) above, then it is clear that the values of  $\alpha$  and  $\beta$  must be such that the quantity  $K = \beta/(\beta - \alpha)$  is greater than unity. The question to be considered is whether the estimates—perhaps "guesses" is the preferable term in some cases—of the parameters  $\alpha$  and  $\beta$  for the United States during the prewar period are of such magnitude that  $K > 1$ .

First consider the marginal propensity to save  $\alpha = 1 - c$ , where  $c$  is the marginal propensity to consume. Several investigators have derived estimates of  $c$ . Samuelson,<sup>9</sup> for example, using a single consumption equation, estimated  $c$  to be 0.56 in the United States for the period 1921-39; Haavelmo,<sup>10</sup> using systems of equations, obtained  $c = 0.67$  and  $c = 0.71$  (corresponding to two different models) for the period 1922-41; and R. and W. M. Stone<sup>11</sup> derived  $c = 0.75$  for 1920-35 and  $c = 0.70$  for 1919-35. Taking a simple "average" of these estimates, the result is, say,  $c = 0.68$ . This may perhaps be regarded as a fairly good estimate of  $c$  for the United States for the prewar period.

$Y_t$  over time will not be continuous, but rather in the form of a "step" function. For graphs of all six cases, see Baumol, *op. cit.*, pp. 155-56.

<sup>8</sup> For a detailed discussion of this see Baumol, *op. cit.*, pp. 41-43. Desired investment is given by equation (2) in the text above (page 334).

<sup>9</sup> "A Statistical Analysis of the Consumption Function" in A. H. Hansen, *Fiscal Policy and Business Cycles* (New York: W. W. Norton and Co., 1941), p. 255.

<sup>10</sup> "Methods of Measuring the Marginal Propensity to Consume," *Journal of the American Statistical Association*, 42: 119-21, March, 1947.

<sup>11</sup> The results of the Stones' investigations may be found in J. Tinbergen, *Econometrics* (Philadelphia: Blakiston Company, 1951), p. 97.

If  $\epsilon = 0.68$  then  $\alpha = 1 - \epsilon = 0.32$ . Thus  $K = \beta / (\beta - .32)$ . From this quantity it is readily apparent that large values of  $\beta$ , however large they may be, will not upset Mr. Harrod's hypothesis, since as  $\beta$  becomes large  $K \rightarrow 1$  but never actually reaches unity. For small values of  $\beta$ , however, it is clear that  $\beta$  must be greater than 0.32 if  $K$  is to be greater than unity. Thus the question is whether estimates of the accelerator coefficient for the United States are greater than 0.32, assuming the unit time period for the analysis to be one year.

Postulating a time unit of one year implies that entrepreneurs tend to re-evaluate their capital equipment requirements once a year. This assumption seems fairly reasonable, but further empirical investigation on this point would be desirable.

Several writers have attempted making estimates—most of them “quasi-empirical” estimates—of the accelerator coefficient. Professor Goodwin, for example, considers a value in the neighborhood of 1.5 as reasonable,<sup>12</sup> Professor Baumol<sup>13</sup> suggests a value somewhere around 3, as does Professor Hansen.<sup>14</sup> All of these estimates, along with the assumption of  $\alpha = 0.32$ , imply  $K > 1$  and hence behavior in  $Y_t$  as given in case (2) above.

Professor Tinbergen in his statistical analyses of the acceleration principle<sup>15</sup> usually obtained estimates of the accelerator coefficient which were less than unity. But there was little evidence suggesting that the coefficient might be as low as 0.32, especially when allowance is made for the fact that the statistical analyses included the depression of the 1930's during which time there was a large amount of idle plant capacity and hence little “acceleration” effect in new investment.<sup>16</sup>

In sum it would seem that the empirical evidence, such as it is, apparently suggests values of the parameters  $\alpha$  and  $\beta$  which imply behavior in  $Y_t$  as given by case (2) above.

Someone might perhaps suggest trying a statistical least squares fit to equation (6) above and seeing if the estimate of  $K$  turns out to be greater than unity. The present author has tried this for the United States, 1920–41, using the annual gross national product estimates of the United States Department of Commerce for the period 1929–41, and Kuznets' gross national product data for the period 1920–28.<sup>17</sup> There may be some question about including the period of the 1920's

<sup>12</sup> R. M. Goodwin, “Secular and Cyclical Aspects of the Multiplier and the Accelerator,” in *Income, Employment and Public Policy* (New York: W. W. Norton and Company, 1948), p. 111.

<sup>13</sup> Baumol, *op. cit.*, p. 51.

<sup>14</sup> A. H. Hansen, *Business Cycles and National Income* (New York: W. W. Norton and Co., 1951), p. 478–80.

<sup>15</sup> E.g. see J. Tinbergen, *Statistical Testing of Business-Cycle Theories: A Method and its Application to Investment Activity* (Geneva: League of Nations Economic Intelligence Service, 1939).

<sup>16</sup> See *ibid.*, p. 126. Also see Gottfried Haberler, *Prosperity and Depression* (New York: United Nations, 1946), pp. 96–7.

<sup>17</sup> Kuznets' data may be found in his *National Product Since 1869* (New York: National Bureau of Economic Research, 1946).

The gross national product data were converted into “real” terms by using as a statisti-

in the statistical analysis, because equation (6) refers to "warranted" aggregate real output and not to aggregate real output when it runs into Mr. Harrod's "real ceiling." When the real ceiling is reached equation (6) does not apply. It is doubtful, however, that the real ceiling on output was actually reached at any time during the 1920's.<sup>13</sup>

The resulting statistical estimate of  $K$  turned out to be 1.04. This is apparently the most likely value of  $K$  for the data under analysis, but rigorously speaking there is no basis for a high degree of confidence that  $K$  is significantly greater than unity, because the standard error of estimate of  $K$  is 0.097. Thus any reasonably stringent confidence interval is bound to include values of  $K$  which are less than unity.

Even if from a statistical inference standpoint the value of  $K = 1.04$  were regarded as a substantially good estimate of  $K$ , it would seem somewhat unreasonable on the basis of the following argument. If 0.32 is assumed to be a fairly good estimate of  $\alpha$ —and there seems to be in fact sufficient reason for believing that this is so—then it follows that if  $K = 1.04$ ,  $\beta$  must be very large ( $\beta = 8.32$ ). This hardly seems plausible.

The "empirical" analysis presented in this note is admittedly weak at certain points. But the evidence, whatever it may be worth, seems to suggest values of  $\alpha$  and  $\beta$  which will lead to "explosive upward" type of behavior in  $Y_t$ . This conclusion is, of course, preliminary and tentative.

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cal deflator a "general" price index (1935-39 = 100) derived by combining the B.L.S. wholesale price index (1926 = 100) and the B.L.S. consumers' price index (1935-39 = 100). This was done by first shifting the base of the wholesale price index from 1926 to the average for 1935-39, and then averaging the two indexes together by use of the geometric mean.

<sup>13</sup> See Professor Duesenberry's argument on this point in his "Hicks on the Trade Cycle," *Quarterly Journal of Economics*, 64: 468-72, August, 1950.

## COTTON COMPETITION—U.S. AND EGYPT, 1929–1948

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Cotton production in Egypt has never been large relative to U. S. production. Egypt's ability to grow either a long-staple cotton suitable for the manufacture of very fine cotton goods or, alternatively, a medium-staple cotton which is a substitute for American cotton gives her production, however, a flexibility which statistics on total production do not indicate. In the absence of any appreciable American production of long-staple cotton, American manufacturers of cotton sewing thread and fine cotton goods must obtain their raw material largely from Egypt. By shifting acreage from the long-staple varieties to medium-length staples, Egypt might significantly increase the world supply of the medium-staple cotton which the American farmer also sends to the world market.

### I

Although the variations in cotton production (Table 1) in the United States and Egypt did not follow exactly the same pattern during the twenty-year period, 1929–1948<sup>1</sup>, both countries ended the period with cotton production in 1948 almost identical to that in the 1929 cotton year. During the period under study, Egyptian production dropped below average early in the nineteen-thirties when the Egyptian government instituted acreage restrictions; production rose above average in the latter part of the decade when the United States was applying acreage restrictions intermittently; production in Egypt, severely restricted by the Egyptian government, fell further below average during the war than did production in the United States where governmental attempts to reduce production were not as stringent; both countries witnessed a rapid recovery after the war to their 1929 production levels.

During the twenty-year period under study, the Egyptian crop was generally between ten and fifteen per cent of American production. Egyptian acreage reduction programs in years (e.g., 1931–1932) in which there were no similar U. S. restrictions pushed the relative position of Egyptian production to American below ten per cent while U. S. acreage restrictions which were not matched by similar Egyptian reductions in particular years (notably 1935) served to raise Egyptian production above fifteen per cent of the U. S. crop.

Relative to world production, Egyptian production was quite stable between 1929 and 1941 ranging from 6.6 per cent of the world total in 1933 and 1935 to 5.9 per cent of the world total in 1938. In only two years out of thirteen did governmental acreage restrictions significantly reduce Egypt's share of world production. In these years, 1931 and 1932, Egyptian production was only 4.7 per cent and 4.2 per cent, respectively, of the world total. When shipping for

<sup>1</sup> Unless otherwise stated, years are "cotton years" which begin on August 1 of the year given.

the export of cotton and the import of food became difficult or impossible to obtain in the critical years (1942-1944) of World War II, production was sharply curtailed by an enforced shift from cotton to food crops. Production, which had reached a maximum in 1937 of 2.3 million bales, fell below one million bales in

TABLE 1  
*Cotton Production, U. S. and Egypt, 1929-1948*

YEAR BEGINNING AUGUST 1	BALES (500 LBS. GR. WT.) PRODUCED					
	Quantity (thous.)		Index Numbers (base: 1929-1948)		Per cent of World Total	
	United States	Egypt	U. S.	Egypt	U. S.	Egypt
1929	14,825	1,768	117.9	116.7	55.19	6.58
1930	13,932	1,715	110.8	113.2	53.18	6.55
1931	17,097	1,317	135.9	86.9	61.39	4.73
1932	13,003	1,027	103.4	67.8	53.18	4.20
1933	13,047	1,777	103.7	117.3	48.47	6.60
1934	9,636	1,566	76.6	103.4	40.47	6.58
1935	10,638	1,769	84.6	116.8	39.66	6.60
1936	12,399	1,887	98.6	124.6	39.42	6.00
1937	18,946	2,281	150.6	150.6	49.08	5.91
1938	11,943	1,728	94.9	114.1	41.06	5.94
1939	11,817	1,801	93.9	118.9	40.90	6.23
1940	12,566	1,900	99.9	125.4	41.13	6.22
1941	10,744	1,735	85.4	114.5	39.44	6.37
1942	12,817	877	101.9	57.9	47.42	3.24
1943	11,427	740	90.8	48.8	45.00	2.91
1944	12,230	962	97.2	63.5	49.34	3.88
1945	9,015	1,082	71.7	71.4	42.55	5.11
1946	8,640	1,257	68.7	83.0	40.06	5.83
1947	11,851	1,320	94.2	87.1	46.68	5.20
(p) 1948	14,868	1,845	118.2	117.5	51.05	6.37

(p) Preliminary.

Sources: Compiled or derived from U. S. Department of Agriculture, *Agricultural Statistics, 1945*, p. 74; 1949, p. 76; International Cotton Advisory Committee, *Cotton Quarter Statistical Bulletin*, June, 1952, p. 8.

each of these three years while Egypt's share of world production fell below 4 per cent (below 3 per cent in 1943) of total world production.

Although U. S. cotton production during the war suffered some reduction in response to the government's appeal for increased food production and the loss of manpower to industry and the armed forces, this reduction was not so great as that in Egypt or, indeed, any other major cotton-producing nation. Consequently, the American share of world production actually increased during the war and in 1944 reached 49.3 per cent of the world total, the highest percentage since 1932.

By 1948, U. S. production had crossed the half-way mark and stood at 51.3 per cent of total world production while Egyptian production had regained its relative position of the pre-war period and represented 6.4 per cent of the world total. Thus, despite large fluctuations in the twenty years between 1929 and 1948, Egypt found herself at the end of the period in almost the identical cotton production position relatively and in absolute terms as at the beginning of the period.

## II

Cultivable land in Egypt is restricted by the climate entirely to irrigated or "flooded" land. This area, consequently, cannot be expanded except after large investment expenditures on dams, pumps, ditches and other capital items incident to irrigation projects. By 1948, some six million acres of land were under irrigation with about nine and one-half acres of crops being harvested since part of the land is double-cropped.<sup>2</sup>

In the short-run, consequently, increases in cotton acreage can be accomplished only by shifts in land use from other crops to cotton. For the long-run, additional irrigation and drainage facilities may increase crop acreage by about one-fifth. This appears to be the maximum possible given the volume of water in the Nile at different seasons and the topography of the river valley. During the period 1929–1948 there were only slight variations in the total Egyptian acreage devoted to all crops.<sup>3</sup>

Egyptian cotton acreage (Table 2) in 1948 showed a much smaller reduction from the 1929 figure than did U. S. cotton acreage. U. S. cotton acreage was almost halved between 1929 and 1948 although there were no governmental restrictions on cotton-growing in the latter year. Egyptian cotton acreage, on the other hand, was restricted by the Egyptian government in 1948 and equaled about 78 per cent of the 1929 acreage. Absolute figures for the change were: United States, 43.2 million acres in 1929 to 23.0 million acres in 1948; Egypt, 1.9 million acres in 1929 to 1.5 million acres in 1948.

The war years 1942–1945 include Egypt's smallest cotton crops of the period under study. In two of these years (1942–1943) acreage was only about one-third as great as in the peak years of the pre-war period. Severe governmental restrictions were enforced during the war in order to fill the gap in the food supply ordinarily taken care of by food imports. After the war, apparently, only continued restrictions on acreage prevented cotton from regaining its pre-war position in Egypt's agricultural acreage.

In the years ahead, however, no large increase in cotton acreage above pre-war levels can be expected because of the natural limitations on expanding total crop acreage and because of the difficulty of trading an industrial raw material for food in a world rife with bi-lateralism.<sup>4</sup>

Shifts in cotton acreage from the growing of long-staple cotton to medium-

<sup>2</sup> Read P. Dunn, Jr., *Cotton in Egypt*, p. 1.   <sup>3</sup> *Ibid.*

<sup>4</sup> See the writer's article, "Cotton Competition—U. S. and India—1929–1948," *Southern Economic Journal*, XVII, Jan., 1951, p. 282, for a discussion of this problem with regard to India.

staple cotton have a direct effect on the supply of foreign cottons competing with American cotton for while the long-staple cotton is a high-cost substitute for medium-staple cotton and ordinarily is not used in this fashion, the Egyptian medium-staples (Ashmouni, Zagori, and Giza 30 varieties) are easily substitutable for American cotton. Table 3 which compares the Egyptian acreage

TABLE 2  
*Cotton Acreage Harvested, U. S. and Egypt, 1929-1948*

YEAR BEGINNING AUGUST 1	ACRES HARVESTED					
	Number (thous.)		Index Numbers (base: 1929-1948)		Per cent of World Total	
	United States	Egypt	U. S.	Egypt	U. S.	Egypt
1929	43,242	1,911	158.4	124.8	50.44	2.23
1930	42,454	2,162	155.5	141.2	49.81	2.54
1931	38,705	1,747	141.8	114.1	47.56	2.15
1932	35,939	1,135	131.6	74.1	46.46	1.48
1933	29,978	1,873	109.8	122.3	39.78	2.49
1934	26,866	1,798	98.4	117.4	46.50	2.44
1935	27,335	1,733	100.1	113.1	35.96	2.28
1936	30,054	1,781	110.1	116.3	32.54	1.93
1937	33,623	2,053	123.1	134.0	35.79	2.19
1938	24,248	1,852	88.8	120.9	31.55	2.41
1939	23,805	1,687	87.2	110.1	32.90	2.33
1940	24,861	1,749	87.4	114.2	31.50	2.31
1941	22,236	1,706	81.4	111.4	29.90	2.29
1942	22,602	733	82.8	47.8	33.50	1.09
1943	21,652	740	79.3	48.3	31.78	1.09
1944	20,009	885	73.3	57.8	33.42	1.48
1945	17,241	1,020	63.1	66.6	31.10	1.84
1946	17,615	1,258	64.5	82.1	31.06	2.22
(p) 1947	21,269	1,302	77.9	85.0	35.46	2.17
(p) 1948	23,003	1,496	84.2	97.7	35.46	2.31

(p) Preliminary.

Sources: Compiled or derived from: *Hearings on Cotton*, Subcommittee of the Committee on Agriculture, House of Representatives, 78th Congress, second Session, Washington, Government Printing Office, 1945, p. 54. U. S. Department of Agriculture, *Agricultural Statistics*, consecutive annual editions, 1945-1949.

devoted to medium-staple varieties with the total cotton acreage indicates a definite shift in land use in the decade 1929-1939 from long-staple to medium-staple cotton. While Egyptian acreage in medium-staple cotton was only 46.4 per cent of total cotton acreage in 1932, it jumped to 56.0 per cent the following year and reached its peak for the pre-war years in 1936 when 58.2 per cent of the total cotton acreage was devoted to medium-staple cotton.

During the war, governmental restrictions on cotton production bore especially heavily on medium-staple cotton, so that by 1946 medium-staple cotton production was less than one-third of total Egyptian production. By 1948, however, some 70 per cent of Egyptian cotton production was medium-staple cotton.<sup>6</sup> Of the total Egyptian cotton acreage in this year 58.7 per cent was devoted to growing medium-staple cotton.<sup>7</sup>

### III

The yield of cotton per acre (Table 4) is much greater in Egypt than in the United States because of the generally excellent soils and controlled water supply of the Nile Valley. The improvement in U. S. yields during the period under

TABLE 3  
*Egypt, Acreage Under Cotton (Ashmouni-Zagora), 1929-1938*

YEAR BEGINNING AUGUST 1	NUMBER (THOUS.)		PER CENT ASH.-ZAG. OF TOTAL
	Ashmouni-Zagora	Total	
1929	834.6	1,911.5	43.7
1930	971.8	2,161.7	45.0
1931	787.5	1,747.0	45.1
1932	526.3	1,135.3	46.4
1933	1,048.8	1,872.9	56.0
1934	919.2	1,797.9	51.1
1935	974.0	1,732.5	56.2
1936	1,036.2	1,781.1	58.2
1937	1,186.3	2,053.4	57.8
1938	927.5	1,851.8	50.1
1939	806.3	1,686.6	47.8

Sources: *Egyptian Cotton Yearbook, 1937-38*, p. 104; *1938-39*, p. 64.

study, however, narrowed the gap between yields in the two countries. With the exception of years of abnormal yields in one country or the other, Egyptian yields were about two and one-half times as great as U. S. yields in the early years of the period, 1929-1948, and about twice as great as U. S. yields in the later years. This narrowing of the gap between cotton yields in the United States and Egypt is the result of the U. S. yield rising at a faster rate than in Egypt for Egyptian yields were increasing also during the same period. In the American case these higher yields are the result of a complex of factors principal among which were: a large reduction in total acreage devoted to cotton which meant the removal of marginal land from cotton cultivation, the partial

<sup>6</sup> Derived from *Egyptian Cotton Yearbook*, Cairo, consecutive annual editions.

<sup>7</sup> R. P. Dunn, Jr., *op. cit.*, p. 62. The difference between the proportion of cotton production and cotton acreage is due to the fact that higher yields are realized with medium-staple cotton.

shifting of cotton-growing from low-yielding land in the southeast to high-yielding land in the southwest and west, planting of improved varieties of cotton, and the increased use of fertilizer. In Egypt, on the other hand, there has been a much smaller reduction in total acreage under cotton<sup>7</sup> and this reduction has been chiefly in the highest-yielding areas because of governmental restrictions on cotton-growing in Upper Egypt.<sup>8</sup>

TABLE 4  
*Yield of Cotton per Harvested Acre, U. S. and Egypt, 1929-1948*

YEAR BEGINNING AUGUST 1	UNITED STATES	EGYPT	EGYPT AS PER CENT OF U. S. YIELD
	(pounds/acre)		
1929	164	442	269.5
1930	157	379	241.4
1931	212	360	169.8
1932	174	433	248.0
1933	213	450	211.3
1934	172	416	241.9
1935	185	488	263.8
1936	199	506	254.3
1937	270	442	163.7
1938	236	458	194.1
1939	238	525	220.6
1940	253	534	211.1
1941	232	499	215.1
1942	272	588	216.2
1943	254	490	192.9
1944	209	529	176.9
1945	254	520	204.7
1946	235	480	208.1
1947	266	498	187.2
1948	309	569	184.1

Sources: Read Dunn, Jr., *Cotton in Egypt*, p. 69; Tables 1 and 2.

#### IV

In the period, 1929-1939, in which the Liverpool Cotton Market offered an international trading place for the world's raw cotton, the price of Egyptian medium-staple cotton moved with the price of American cotton (Table 5). At its lowest relative price (1934) Egyptian cotton<sup>9</sup> sold in Liverpool at a price slightly less than 100 per cent of the price of American cotton.<sup>10</sup> In 1937 Egyptian cotton

<sup>7</sup> In the United States, cotton acreage in 1948 was hardly more than half that of 1929; in Egypt cotton acreage in 1948 was more than three-quarters that of 1929.

<sup>8</sup> R. P. Dunn, Jr., *op. cit.*, p. 25. <sup>9</sup> Uppers, Fully Good, Fair (a medium-staple).

<sup>10</sup> Middling Fair,  $\frac{1}{2}$ ".

sold in Liverpool for 127 per cent of the price of American cotton. This was the highest relative price for Egyptian cotton during this eleven-year period. Since 1934 was the year of lowest American cotton production and 1937 the year of highest production in the United States, these price relationships appear to be evidence of a small variation in the relative prices of American and Egyptian cotton depending principally upon changes in the availability of American cotton. Egyptian cotton production in 1937 was also higher than that of 1934, but the percentage increase of the 1937 crop over the 1934 crop was much less in Egypt than in the United States.

TABLE 5  
*Season Average Price per Pound of American and Egyptian Cotton in Liverpool, 1929-1939*

YEAR BEGINNING AUGUST 1	AMERICAN*	EGYPTIAN†	INDEX NUMBER (BASE: 1929-1939)		EGYPTIAN PRICE AS PER CENT OF AMERICAN
			U. S.	Egypt	
(U. S. cents/lb.)					
1929	18.44	21.25	151.33	148.37	115.23
1930	11.61	13.95	95.28	97.40	120.15
1931	7.54	8.93	61.88	62.35	118.43
1932	8.52	10.61	69.92	74.08	124.53
1933	12.47	13.77	102.34	96.14	110.42
1934	14.24	15.49	116.86	108.15	108.77
1935	13.50	15.49	110.79	108.15	114.74
1936	14.62	17.40	119.98	121.49	119.01
1937	10.31	13.10	84.61	91.46	127.06
1938	10.15	11.80	83.30	82.39	116.25
1939	12.64	15.76	103.73	110.04	124.68

\* Middling Fair,  $\frac{3}{8}$ ".

† Uppers, Fully Good, Fair. This is an Egyptian classification. Such cotton would be a medium-length staple.

Source: Compiled or computed from, U. S. Department of Agriculture, *Agricultural Statistics*, 1940 edition, p. 124; 1942 edition, p. 119.

In the immediate post-war period, the price of Egyptian cotton maintained nearly the same relationship to the price of American cotton as before the war.<sup>11</sup> Late in 1947, however, the impact of the "dollar shortage" on western Europe forced these nations to turn from the United States to other (non-dollar) sources of cotton. The result was an extremely rapid rise in the price of Egyptian cotton. The price quotations for the five-months period November, 1947-March, 1948, clearly illustrate the effect of this shift (see top of page 346).

As dollars became available under the Marshall Plan the spread between the prices of American and Egyptian cotton was reduced. By October, 1948, the Egyptian price was 131 per cent of the American price.<sup>12</sup>

<sup>11</sup> R. P. Dunn, Jr., *op. cit.*, p. 79.

<sup>12</sup> *Ibid.* Although outside the period of this study, it is interesting to note that by May,

MONTH	U. S.	EGYPT	PER CENT EGYPTIAN PRICE OF U. S. PRICE
			(U. S. cents per pound)
Nov., 1947	33.61	34.52	102.70
Dec., 1947	35.79	39.17	109.44
Jan., 1948	35.15	45.21	128.62
Feb., 1948	32.76	60.70	185.28
Mar., 1948	34.18	71.33	208.68

NOTE: Prices are spot market prices for U. S. middling 15½" cotton and Egyptian Ashmouni, fully good, fair cotton. Consequently, these prices may not be compared directly with those given in Table 5.

Source: R. P. Dunn, Jr., *op. cit.*, p. 79.

#### V

Cotton exports are almost Egypt's only commercial link with the outside world. It seems clear that the volume of her imports depend upon the volume of her exports and not the other way round.<sup>13</sup> Cotton exports usually comprise from seventy-five to ninety per cent of the total value of her exports.<sup>14</sup> Consequently, the Egyptian government has on occasion interfered in either the production or marketing of cotton in attempts to maximize the amount of foreign exchange yielded by cotton exports. These efforts have, in general, been unsuccessful.<sup>15</sup>

Egyptian exports of cotton appear to have fluctuated in sympathy with U. S. cotton exports in some years but not others during the period 1929-1948 (Table 6). In the pre-war period especially, years in which the United States' share of the world export total fell, the Egyptian share rose, but proportionally the changes were not always comparable. This is not difficult to understand since these figures include exports of both long-staple and medium-staple cotton and the former type (an Egyptian specialty) possesses a rather distinct market for technical reasons. It is, perhaps, more significant that in the pre-war period the percentage of medium-staple cotton out of total Egyptian cotton exports was (except for the year 1930) consistently higher after 1933 than in the earlier years, 1929-1932 (see Table 7). Here we probably have an indication of Egypt's adjustment to the U. S. price-support and acreage-control programs.

Because Egypt's total cotton exports do not bulk large in the world total and because these exports, with the exception of the war years, have been more stable than the larger exporting nations, the absolute changes in her exports have not been impressive. The difference between the largest volume of exports

1952, the price of Egyptian cotton had actually fallen below that of similar U. S. cotton. In this month the price of American cotton (middling 15½") in U. S. spot markets was 38.64 cents per pound; the price of Egyptian cotton (Ashmouni, fully good, fair) in Alexandria was 34.31 U. S. cents per pound. International Cotton Advisory Committee, *Cotton Quarterly Statistical Bulletin*, June, 1952, pp. 44-45.

<sup>13</sup> Charles Issawi, *Egypt: An Economic and Social Analysis*, p. 113; also, C. Bresciani-Tuwaiq, "Egypt's Balance of Trade," *Journal of Political Economy*, 42 (June, 1934) 3, p. 384.

<sup>14</sup> Issawi, *op. cit.*, p. 122; also, J. W. Taylor, *Egypt*, p. 32. <sup>15</sup> C. Bresciani-Turroni, *op. cit.*, p. 372.

(1939) and of the smallest volume (1930) in the pre-war period was only 650,000 bales. This stability in exports reflects the stability in acreage planted to cotton and a consistent yield. These factors, in turn, arise from the very severe physical limitations placed on all Egyptian agriculture by virtue of her climate and the Nile Waters.

TABLE 6  
*Cotton Exports, U. S. and Egypt, 1929-1948*

CALENDAR YEAR	BALES (500 LBS. GR. WT.) EXPORTED					
	Quantity (thous.)		Index Numbers (base: 1929-1948)		Per cent of World Total	
	United States	Egypt	U. S.	Egypt	U. S.	Egypt
1929	8,127	1,580	163.40	114.6	51.73	10.06
1930	7,159	1,228	143.94	89.1	49.76	8.54
1931	7,535	1,538	151.50	111.6	53.60	10.94
1932	9,817	1,390	71.05	100.8	66.43	9.41
1933	9,229	1,630	185.56	118.3	61.27	10.82
1934	6,336	1,777	127.39	128.9	45.87	12.87
1935	6,453	1,777	129.75	128.9	45.91	12.64
1936	5,912	1,616	118.87	117.2	40.43	11.05
1937	6,349	1,844	127.65	133.8	41.97	12.19
1938	4,787	1,645	96.25	119.3	37.47	12.88
1939	5,030	1,886	101.13	136.8	38.59	14.47
1940	4,008	1,085	80.59	78.7	42.40	11.48
1941	1,260	956	25.33	69.4	18.49	14.03
1942	1,114	737	22.40	53.5	25.70	17.00
1943	1,442	672	28.99	48.8	37.10	17.29
1944	1,042	585	20.95	42.4	28.78	16.16
1945*	3,613	860	72.64	62.0	39.16	9.32
1946*	3,544	1,489	71.26	108.0	36.90	15.50
1947*	1,968	1,577	39.57	114.4	22.65	18.15
1948*	4,748	1,700	95.46	123.3	43.97	15.75

\* Year beginning August 1.

Sources: Compiled or derived from International Institute of Agriculture, *International Yearbook of Agricultural Statistics*, 1931-32 edition, pp. 464-469; 1934-35 edition, pp. 532-537; 1940-41 edition, pp. 458-465; 1945-46 edition, part 2, pp. 418-427. International Cotton Advisory Committee, *Cotton Quarterly Statistical Bulletin*.

## VI

Because the total number of persons involved is not large, the Egyptian population problem has not received world attention as has the similar Indian problem. The increase in the Egyptian population in the twenty years, 1929-1949, has, however, amounted to some 5.4 million persons. This represents an increase

in population of about one-third over the 1929 total.<sup>16</sup> The population of the United States, by comparison, rose only about one-fourth in the same period.

This increase in population constitutes a serious economic problem for Egypt and bears directly on Egypt's position in the world cotton market.<sup>17</sup> During the period under study Egypt ceased to be a food-exporting nation and became a food importer instead.<sup>18</sup> The Food and Agriculture Organization of the United Nations estimates that in the 1934-1938 period, the daily per capita value of available food supplies in Egypt was 2,450 calories. By 1947, this had been reduced to 2,364 calories—a fall of nearly five per cent in about ten years.<sup>19</sup>

TABLE 7  
*Egyptian Exports of Medium-Staple Cotton, 1929-1938*

CALENDAR YEAR	BALES (500 LBS. GR. WT.) EXPORTED		
	Ashmouni-Zagora	All Cotton Exports	Per cent Ash.-Zag. of Total
1929	751.8	1,329.9	56.5
1930	890.1	1,392.8	63.9
1931	926.3	1,567.0	59.1
1932	731.4	1,311.4	55.8
1933	1,184.7	1,864.3	63.5
1934	1,094.8	1,653.1	66.2
1935	1,073.2	1,697.9	63.2
1936	1,169.9	1,834.1	63.8
1937	1,164.6	1,791.6	65.0
1938	1,084.2	1,762.8	61.5

Sources: *Egyptian Cotton Yearbook, 1934-35*, p. 115; *1938-39*, p. 90.

This increase in population appears to be a long-term phenomenon. The population of Egypt more than doubled in the last fifty years.<sup>20</sup> In this same period, the estimated increase in agricultural production was only one-third and the increase in area under cultivation one-tenth.<sup>21</sup> Between 1926-1928 and 1939,

<sup>16</sup> The 1929 figure (14,611,000 persons) used in this calculation is a crude estimate based upon the census figure of 1927 found in: United Nations, *Demographic Yearbook, 1949-50*, p. 84, and the 1932 estimate in the same source, pp. 96-97. The 1949 figure (20,045,000 persons) is an estimate found in: United Nations, *Monthly Bulletin of Statistics*, V (June, 1951) 6, p. 6.

<sup>17</sup> See the writer's article, *op. cit.*, for a discussion of this point in the case of India. The Egyptian situation differs from that of India principally in the uniqueness of her long-staple cotton. Food-exporting nations such as the United States and the Soviet Union import Egyptian long-staple cotton because they cannot produce it themselves in sufficient quantities and because virtually no substitute is available for certain uses (e.g., sewing thread).

<sup>18</sup> United Nations, *Review of Economic Conditions in the Middle East*, p. 15.    <sup>19</sup> *Ibid.*

<sup>20</sup> United Nations, *Domestic Financing of Economic Development*, p. 114.

<sup>21</sup> *Ibid.* The unusual increase in yield indicated by the figures on increase in agricultural production and increase in area under cultivation is probably due chiefly to the spread

the increase in production of major crops kept pace with the increase in population, but since 1939 this has not been the case. Nor has industrial production increased sufficiently to make up the difference in per capita income.<sup>22</sup>

The Egyptian food problem probably would have approached the crisis stage not long after 1939 had there been no war, but the great difficulties of procuring shipping for the export of cotton and the import of food led to reduction of the acreage under cotton by government regulation. The Egyptian government found it necessary to continue these restrictions in modified form in the immediate post-war years.<sup>23</sup>

Agricultural production in Egypt is limited primarily by two factors—the volume of water flowing down the Nile River available for irrigation and the maintenance of the fertility of the soil under irrigation.

No satisfactory estimate of the additional area which might be brought under cultivation by irrigation is available. Egyptian officials estimated after World War II that the area under cultivation might be increased by twenty-five per cent or about two and one-third million acres.<sup>24</sup> If, following the pre-war proportion of land use, one-fifth of this area were planted to cotton, the increase in cotton production would amount to only about one-half million bales assuming current yields were maintained. A recent observer, however, fixes 1.8 million acres as the maximum possible increase in acreage under cultivation.<sup>25</sup> The increase in cotton production under the preceding assumptions would be, in this case, only about 400,000 bales.

Attempts to increase the water supply for irrigation purposes will require large capital expenditures which Egypt almost certainly cannot herself supply except over a very long period of time and which may not be forth-coming from abroad until Egypt demonstrates more economic and political stability as an independent nation than she has shown to date. In addition, political difficulties will be met with since the cooperation of Abyssinia, Uganda, and the Anglo-Egyptian Sudan will be essential.<sup>26</sup>

The problem of maintaining fertility on the irrigated land of Egypt is in some respects similar to that of Pakistan. Salinity of the soil is a serious matter, often requiring expensive drainage facilities. The loss of the silt formerly deposited on the land by the ancient "flood" method of irrigation requires large doses of artificial fertilizer periodically to prevent a decline in yields. Furthermore, the best lands from the standpoint of irrigation have already been put to use in this way and, consequently, as the area under irrigation is enlarged the cost relative to the return will rise.<sup>27</sup>

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of irrigation. Where water is carried to previously unirrigated land not only do yields rise for a particular crop, but it often becomes possible to increase the number of crops per year on the same land from one to two. See R. P. Dunn, Jr., *op. cit.*, p. 12-13. As many as three crops a year are sometimes produced on the same land.

<sup>22</sup> United Nations, *Review of Economic Conditions in the Middle East*, p. 13.   <sup>23</sup> J. W. Taylor, *op. cit.*, p. 48; R. P. Dunn, Jr., *op. cit.*, p. 29.

<sup>24</sup> R. P. Dunn, Jr., *op. cit.*, p. 20.

<sup>25</sup> *Ibid.*, p. 21.   <sup>26</sup> *Ibid.*

<sup>27</sup> See A. E. Crouchley, *The Economic Development of Modern Egypt*, pp. 241-245, for a less pessimistic view of the future of irrigation in Egypt.

## VII

As was the case among the other major cotton-exporting nations of the world during the 1929-1948 period, the Egyptian cotton textile industry grew steadily. The rising importance of the cotton textile industry in Egypt is in part due to a moderate protective tariff which went into effect in 1930 when the last commercial treaty which prohibited such tariffs expired.<sup>28</sup> Imports of cotton piece-goods declined from 66.7 million pounds in the calendar year 1929<sup>29</sup> to 54.4 million pounds in 1934<sup>30</sup> and to 21.6 million pounds in 1939.<sup>31</sup> World War II virtually cut Egypt off commercially from the rest of the world and led to a tremendous increase in cotton textile production in order to supply the deficit left by the cessation of foreign trade. After the war, imports, even as late as 1948, did not approach even the low 1939 level. In 1946, Egypt imported some 5.4 million pounds of cotton piece-goods;<sup>32</sup> by 1948, this figure had risen to 7.7 million pounds.<sup>33</sup> At this level cotton piece-goods imports were one-third of what they had been in 1939 and only one-eighth of the 1929 figure.

Domestic production rose in a rough correspondence with the decline in imports. From the low 1929 figure of 7.2 million square yards production increased steadily until 1934 when some 44.9 million square yards were manufactured.<sup>34</sup> By 1939, production had reached 121.1 million square yards;<sup>35</sup> by 1948, 191.6 million square yards were produced.<sup>36</sup> Thus production in 1948 was over half again as large as in 1939 and twenty-five times as large as in 1929.

Cotton consumption increased, of course, as production of textiles increased until at the close of the period under study nearly one-quarter million bales of cotton were being consumed in the mills of Egypt. All of this cotton was grown in Egypt; the importation of raw cotton into Egypt is prohibited.<sup>37</sup>

This increase in domestic cotton production has not, in all probability, been accompanied by an increase in per capita consumption of cotton. According to the United Nations' Food and Agriculture Organization, the amount of cotton in cotton products available per person for home use in Egypt in 1938 was 2.5 pounds; by 1948 this figure had risen to 2.6 pounds, but had dropped by 1950 to 2.4 pounds.<sup>38</sup> The author's own estimate of per capita consumption of cotton in Egypt in 1930 is 3.5 pounds.<sup>39</sup>

<sup>28</sup> *Ibid.*, p. 227. Much higher rates went into effect in April, 1938. C. Empson, *Report on Economic and Commercial Conditions in Egypt*, p. 23.

<sup>29</sup> U. S. Department of Commerce, *Foreign Commerce Yearbook, 1933*, p. 29.

<sup>30</sup> *Ibid.*, 1936 edition, p. 33. <sup>31</sup> *Ibid.*, 1939 edition, p. 24. <sup>32</sup> *Ibid.*, 1948 edition, p. 41. <sup>33</sup> *Ibid.*, 1949 edition, p. 623.

<sup>34</sup> Derived from G. H. Selons, *Report on Economic and Commercial Conditions in Egypt*, p. 115.

<sup>35</sup> R. P. Dunn, Jr., *op. cit.*, p. 90. <sup>36</sup> *Ibid.* <sup>37</sup> A. E. Crouchley, *op. cit.*, p. 228.

<sup>38</sup> *Per Caput Fiber Consumption Levels*, p. 13.

<sup>39</sup> This is derived from cotton piece-goods consumption figures given in G. H. Selons, *op. cit.*, p. 115, the conversion factor given in United Nations, *Per Caput Fiber Consumption Levels*, p. 6, and the population data given above, p. 95. The margin of error in per capita cotton consumption figures is large, however, and not too much significance can be placed on differences when the bases of the estimates are not the same. R. P. Dunn, Jr., was given a figure of five pounds per capita by Egyptian officials in 1947. *Cotton in Egypt*, p. 87, n. 1. This is almost certainly much too large.

## VIII

Although the total quantity of cotton involved is not large relative to normal U. S. production, the Egyptian cotton industry showed itself during a large part of the period, 1929–1948, to be quite sensitive to events in the U. S. cotton industry. The causal chain did not always run in the same direction, however.

In 1931 and 1932, for example, the Egyptian government's restrictions on the growing and marketing of Egyptian cotton must have contributed to the unusually high level of American cotton exports in those years. Curiously enough, I have been unable to find any reference to this fact in any of the American discussions of the decline in American cotton exports after 1932. Obviously, if U. S. exports were higher in 1932 than they would have been in the absence of the Egyptian restrictions, then the magnitude of the *fall* in exports after 1932 could not have been due entirely to the U. S. agricultural program of the mid-thirties. And, of course, it is the *difference* between one period and the next which is important in this connection rather than the absolute level of exports.

If one takes into account the enforced reduction of acreage in 1931 and 1932, it would appear that Egypt expanded her cotton acreage very little as a result of the U. S. agricultural program. Production did increase, however, during the nineteen-thirties as a result of an increase in yield. Since this increase in yield arose primarily from the expansion of the irrigated area of Egypt at the expense of the "flooded" area, it might be argued that the improvement in the world market for Egyptian cotton led to the making of capital expenditures for irrigation. To the extent that the U. S. program contributed to higher prices and a larger volume of exports of Egyptian cotton, it may thus have also contributed to the spread of irrigation in Egypt and consequent improvement in yields and in total production. This is, however, a tenuous thread of reasoning and is certainly not wholly correct. It suffices to point out that Egypt's efforts to control the Nile extend over several millennia and, in particular, since 1907,<sup>40</sup> large projects in the way of modern irrigation have been carried out.

On the other hand, it is probably significant that fertilizer imports increased each year from 1935–1937 and the improvement in the cotton market almost certainly played a large part in this trade development by making the use of increased fertilizer doses profitable and by providing the foreign exchange with which to purchase it.

It appears that the most important reaction in Egypt to the American cotton program was the shift from long-staple cotton to medium-staple cotton as the market for the latter improved relatively. This shift, of noticeable proportions, was still small in an absolute sense and could not, quantitatively have accounted for much of the decline in the foreign market position of American cotton.

The war gave Egypt's cotton industry a severe set-back from which it had just recovered production-wise in 1948. In terms of acreage, the government had not by this date been in a position to allow a return to the pre-war proportions because of the food situation.

<sup>40</sup> The date of the Aswan Dam.

The growth of the cotton textile industry from negligible size to a point at which it was absorbing nearly one-quarter of a million bales of Egyptian cotton annually was not accompanied by a rise in per capita cotton consumption in Egypt and could not, therefore, have even indirectly improved the market for American cotton. Only if we assume that per capita cotton consumption in Egypt would have fallen in the absence of a domestic cotton textile industry would it be possible to claim significance for this new industry in this respect. There is not enough evidence available to decide this question.

Finally, for the future it does not seem likely that Egypt will be able to expand her production of cotton to a significant degree because of the physical and financial limits to further irrigation in the Nile valley and because of the pressure of her population. In a world which well may not experience free multilateral trade in the next generation, this latter fact has a significance not usually given it in foreign trade theory.

## TECHNICAL SCALE RELATIONSHIPS AND FARM SIZE POLICY

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The nature of returns to scale in agriculture has been the foundation of continuous debate and speculation by agricultural economists. Many assumptions in respect to the nature of scale returns are implicit in the recommendations of agricultural economists, in the "agricultural planks" of political aspirants and in the extreme statements of family-farm proponents. While there are nearly as many definitions of a family farm as there are individuals and no one of the definitions has any great economic content, a large group of people take a farm of this size, whatever it may be, to stand among the uppermost values of society. The "family farm stand" is often "tied in" with the "protect-the-agricultural-opportunities" proposition. This proposition supposes that every child born in agriculture "has a natural right" to become an operating farmer. Many people point out that the number of opportunities in farming is on the decrease; therefore, since "the home grounds are endangered," steps must be taken which will check forces leading to larger farms, the indirect cause of fewer "family farms" and "fewer opportunities in farming." These arguments imply great scale economies in farming and that as soon as their full consequences begin to unfurl, remaining farms will become much larger while large numbers of family farms and farming opportunities will disappear.

Similarly, the conventional farm survey suggests, through the residual imputational procedures employed, increasing returns over the range of farm sizes typically found in agriculture. In contrast, however, we find farms of diverse sizes existing and prospering side by side. Also, while there has been a gradual increase in the average size of farms (when measured in land inputs), adjustment has always been very gradual. These considerations support (although it is not necessarily one held by the writer) an hypothesis of constant returns to scale; while no limits would exist for size of a single farm under constant returns, small farms could prosper side-by-side with large farms and resource productivities could be equated between farms of different sizes. This possibility is in conflict with the hypothesis implied perpetually by those who see the family farm endangered. Which of these hypotheses is right?

### WELFARE CRITERION AND ROLE OF SCALE ECONOMIES

Before we speculate further on the nature of scale returns and their implications in agriculture, we wish to suggest a more objective framework for analyzing farm size. Under the cloak of "family farms," discussions of farm size have been

\* Journal paper J-2150 of the Iowa Agr. Exp. Sta., project 1135. Certain comments of Earl Kehrberg, Harold Jensen and W. W. McPherson have improved the logic of this paper.

partly intertwined with those of ownership and farming opportunities with the entire complex thrown into the category whereby any good citizen must be "for motherhood, against sin and for farms of limited size." Limitations on farm size have been supposed by many to be a near-ultimate end of society. The term "family farm" has become a subject for "soap box oratory"; like "more jobs and higher wages for laborers" and "more business and higher profits for manufacturers," it has popular appeal.

But farm size is not an end in itself. It is only a means to alternative ends. These possible ends, which call for farms of different sizes are not entirely compatible and include the following: 1. *Farms of a size to guarantee an efficient product in the sense of minimum cost or resource outlays for a given output or a maximum output from a given resource input.* In terms of competitive firms, of the Chamberlinian type, this end taken alone would call for farms of a size to attain minimum long-run costs. Farms both smaller and larger would be discouraged. 2. *Farms of a size to guarantee political and social stability.* This is the end in minds of persons who point out that a city child is more likely to become a criminal than a farm child; it is the end implied in the statement that "farmers are independent persons interested in safeguarding their freedom and are therefore prone to resist social upheaval." It is partly the end which the clergy uses in pointing out that rural communities contain a larger proportion of church members than cities. These considerations, if carried to the extremes, call for a greater proportion of the population on farms and more small farms. The evidence does not clearly support the hypothesis, however, that a policy of limited farm size and a rural population is an effective means of guaranteeing freedom and political stability. While dictatorship and communism have readily swept through Eastern Europe and Central Asia, nations where the population is concentrated on small, low-income farms, democracy and political stability have flourished in Great Britain, a nation of large agricultural holdings and a small farm population. Sociological researches also suggest that the incidence of crime is not a function of rural living per se. 3. *Farms of a size to guarantee equity in the distribution of income.* Like all other major questions in economic organization, farm size involves those twin considerations of efficiency—efficiency in production and efficiency in the allocation of income (the problems of efficient resource allocation and efficient income distribution). These sets of phenomena are not distinct and discrete. While a pattern of farm size designed to bring about "equity" in the distribution of income, in the sense of modern welfare economics, would not call for farms all of equal size, it undoubtedly would limit great differences in farm size; large units would be prohibited in order that small holders could possess more resources and hence generate more income.

#### FAMILY FARMS AND EFFICIENCY

Some writers claim that efficiency is not a paramount issue in farm size policy. Historic precedents, agrarian principles and "other ends" are cited as standing at a level with or above economic efficiency. But economic efficiency is involved regardless of the end or basis taken for prescribing optimal conditions of produc-

tion. It involves choice between all competing ends, irrespective of their nature, where limited resources and services are concerned. On the one hand we can ask: Does a policy of farm size limitation represent the most efficient means of attaining goals such as social stability, church membership or an equitable distribution of income? While alternative objectives of farm size may be complementary over a range, they certainly become competitive at other levels. Income redistribution may come at the expense of production and vice versa; a policy of farm subdivision and size limitation may cause incomes to be more nearly equal ("equal" and "equitable" are not synonymous in the terms of welfare economics) but at the same time the size of the product to be distributed may be decreased. This is the obvious outcome where scale economies are great; a reduction in size and an increase in number of farms must cause production to slide down the scale line and therefore to require a greater quantity of resources for the same output (or a smaller output from the same resources).

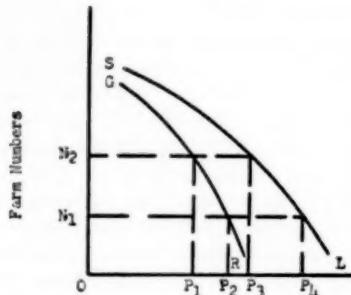
If our farm size policy is to be systematic and logical, we need to examine the efficiency of farms of different sizes as a means to particular objectives. With political and social stability an end standing high in the value system of a nation, can this goal be attained without great sacrifices in agricultural production? Using farm size as a means to this end, we might quadruple the number of farms and the number of persons living on farms. This step would take families out of towns and cities and "lessen their contact with crime"; it also would lower both the efficiency of agricultural production and the amount of non-farm goods and services produced. As an extreme and contrasting program of attaining social stability (if indeed mere "living in the country" can be proven to facilitate this end), we might encourage farms of an optimum size in terms of costs and resource outlays. More people could then engage in production of non-farm products, and, "to get families away from crime," we could have city workers live in the country. Part of the resources saved through a pattern of "minimum cost" farms could be used to subsidize "country living by city workers." The extent to which one of these alternatives should be selected over the other depends partly on the nature of returns to scale in farming. If farm products are produced under conditions of constant returns to scale, no sacrifice in national product is involved if we have a large number of small units; the sacrifice may be very great if farm production takes place under a high degree of increasing returns. We cannot make sensible choices between alternatives such as these unless we have knowledge of scale returns in agriculture and hence can predict the sacrifice in one alternative as we press forward on the other.

#### PRODUCTION POSSIBILITIES

Even then we must recognize that only under unique conditions does economic choice and efficiency entail the selection of one alternative at the complete exclusion of another. This statement and the implication of scale returns (or cost economies of any sort) to it can be illustrated by means of a simple illustration falling in a choice-making and efficiency framework. Let us take an extreme example and compare choice between production of agricultural products and

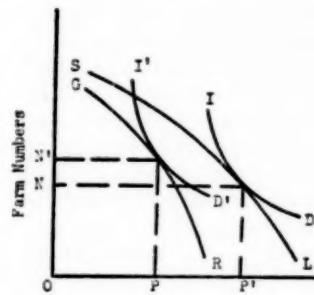
numbers of farms, with farm numbers taken as a good per se in the manner of the agricultural fundamentalist or the tenure enthusiast (We select "farm numbers" as a "good" for purposes of simplicity). Actually it is other attributes of farm numbers which serve as a "good." The conclusions are the same, however. First we must examine the nature of the production possibilities with farm numbers and farm products taken as goods which can be produced with a given collection of resources. By drawing on a conventional relationship in production economics, we get an iso-resource or production possibility curve of the nature of  $SL$  in figure 1 where we suppose scale diseconomies to be slight. (The implications of increasing and constant returns will be brought out later.) If diseconomies to scale are great, the production possibility curve is of the nature indicated by  $GR$ . Under  $GR$ , an increase in farm numbers by  $N_1N_2$  entails a sacrifice in product amounting to  $P_1P_2$ ; under  $SL$  a gain in farm numbers by  $N_1N_2$  entails a greater sacrifice in product or a loss amounting to  $P_3P_4$ . The

Figure 1



Farm Production

Figure 2



Farm Production

sacrifice is less under  $GR$  since the rates of substitution between farm production and farm numbers are lower than for  $SL$ .

Now if we turn to figure 2, the manner in which (a) returns in production and hence (2) the substitution rates on the production possibility curve affect choice for a community with a given set of values can be illustrated. Curve  $ID$  is the community indifference curve indicating the relative value which society attaches to farm production relative to farm numbers (or the services and values to which farm numbers give rise). 1. With resources limited in the quantity indicated by iso-resource curve  $SL$ , the optimum combination of the two alternatives includes a number of farms amounting to  $ON$  and a quantity of production equal to  $OP'$ ; here the indifference curve  $ID$  is tangent to the possibility or opportunity curve  $SL$  and the marginal rate of substitution of farm numbers for farm output is equal in production and consumption. Given the same set of values by society as is indicated by indifference curve  $I'D'$  (the curve  $I'D'$  has the same slope as  $ID$ ) but a condition where diseconomies to scale are very great,

as indicated by opportunity curve *GR*, a different combination represents an optimum choice or maximum economic efficiency. Under this situation welfare is at a maximum with selection of *OP* production from farms and *ON'* farms, a larger number of farms than in our previous case.<sup>1</sup> Obviously then, the choice of combinations denoting maximum efficiency depends also on the nature of scale or cost returns.<sup>2</sup>

#### TECHNICAL SCALE AND COST RELATIONSHIPS

Having set forth the role of scale relationships in farm size choices, we now discuss the nature of scale and cost economies in agriculture. True scale economies are concerned, of course, only if all factors in homogeneous form are increased simultaneously by equal proportions (i.e. the proportions of the various factors must be held in constant proportions as input levels are raised). If the sum of the production elasticities for the several resources is 1.0, constant returns to scale prevail. A sum of elasticities less than 1.0 denotes decreasing returns to scale while a figure greater than 1.0 denotes increasing returns to scale. Per unit costs of production may decline, however, not only through the scale route but also through the proportionality route. Individual resources can be varied in amount while others may be held constant and costs may decline because of the spreading of fixed costs and for the phenomenon of increasing productivity of single factors. Actually the forces giving rise to decreasing unit costs as output of single farms is extended to include the following (increasing unit costs arise from their opposite): 1. Internal technical economies growing out of increasing returns to scale under true scale adjustments or out of increasing marginal productivity of single factors brought about by proportionality adjustments and the overcoming of factor indivisibility; 2. Internal monetary economies brought about through the purchase of resources or credit in volume; 3. External technical economies of a miscellaneous nature; 4. External monetary economies of varied sorts. Aside from certain large specialized farms, the main category from above which bring about cost advantages for larger units in agriculture is that of internal technical economies. If farms are destined to become increasingly large through cost forces, changes in technology along with proportionality and scale relationships within the farm will far outweigh all other forces.

Although discussions and arguments over farm size have been "hot and heavy" for several decades, little is yet known about true scale returns in agriculture, or even about the nature of costs as related to proportionality adjustments in farm acreage or livestock numbers. On the one hand it appears that constant

<sup>1</sup> A community indifference curve can be constructed only if we are willing to accept compensation. While the details of this statement cannot be given here, they are outlined by Baumol ("The Community Indifference Curve, A Reconstruction," *Review of Economic Studies*, Vol. 17).

<sup>2</sup> The logic would be parallel had we used examples of increasing returns for farm production for farming types where increasing scale returns are "great." The possibility curve then will be convex to the origin and will have "little" absolute slope; for a given indifference curve, efficient choice will call for fewer farms and greater production than in the case where increasing returns are "slight."

returns to scale should prevail if all factors including management could be increased by equal proportions. On the other hand it appears that physical scale relationships should be of either an increasing or decreasing nature. It is likely that diminishing returns hold true for a plow which is made bigger and bigger (e.g. an increase from one 14-inch plow bottom to two, four, eight or sixteen 14-inch plow bottoms). The first laws of physics indicate that as an object is increased according to scale, volume increases as the cube of the length while area increases only as the square. While engineering phenomena might specify either increasing or decreasing returns, scale changes need not be restricted to the types of adjustments outlined above. Scale can be increased by the use of two four-bottom plows and two identical tractors rather than one eight-bottom plow and a "proportionately larger" tractor. Similarly, scale can be increased for a single farm firm through addition of duplicate acreages and duplicate collections of machinery as well as by a spatial expansion of a given unit. If the original farm size includes 640 acres of wheat land, twelve months of labor and one tractor with complementary equipment, the farm firm can be doubled in scale by acquisition of another 640 acres and use of twenty-four months of labor and a duplicate set of machinery.<sup>3</sup> The same type of scale adjustment can be made in livestock production. A common farmer observation is that the disease hazard in hog production becomes greater when numbers of litters is increased beyond 18-20 per season. However, even if disease is a function of herd size, the swine enterprise need not be increased at a single location; size of the hog enterprise can be increased in the "true scale" sense, being duplicate units located at different corners of the farm or even on different farms. It seems possible that constant returns might hold true were single farmers to double or triple operating units in the manner outlined here. While not all farmers have managerial ability to expand in a true scale manner, certainly a large number of operators do have. Returns-to-scale relationships are accurately reflected only if all factors including management are increased in equal proportions.

*Possibilities of increasing and decreasing returns to scale.* Specialization and division of labor by tasks provide one basis for an hypothesis of ranges of increasing returns to scale in agriculture. With the number of laborers, machines, buildings and animals increased in identical proportions, the greater volume should allow workers to specialize in an extent that tasks can be fitted to abilities and work simplification can be extended. With a proportionate increase in all factors, the product should increase because of the greater labor productivity. Some dry-lot dairy farms are large enough to realize these scale economies. However, most farms never attain a size such that these economies are realized to any significant degree. Even for farms employing two or three men, the seasonality, spatial and biological character of agricultural production serves to

<sup>3</sup> Obviously, some degree of decreasing returns would exist if the farm headquarters were retained at a single location as acres, labor and machines are increased. Added time would be required in mere travel to outlying fields as the farm acreage increased. Yet the establishment of a second farm headquarters could, conceivably, reduce travel on the second 640 acres to a point where it equals that on the first.

deter the scale gains realized in small non-farm firms of approximately the same size.

Decreasing physical returns to scale in agriculture are likely to be explained mainly in managerial limitations. However, the relationship falls in the realm of proportionality when a single stock of management is limited in the sense that pure supervision becomes less exacting and coordination (true management or choice-making) becomes less perfect. Management in the sense of coordination is limited because of the uncertainty of considerations outlined later. Finally, distance and travel may cause decreasing returns to scale where acreage is extended continuously rather than as two distinct units each with its own farmstead.

*Farm production functions.* The few empirical studies made to test returns to scale in agriculture suggest decreasing or constant returns. Even then these data cannot be taken as conclusive evidence. They are based on samples which include great heterogeneity in the resources employed: management has not been included as an input and perhaps the procedures employed are not most appropriate. Using a logarithmic function which forces a single elasticity for each factor, the writer obtained the data for Iowa farms included below in Table 1. While the function employed allows only one elasticity over the range of observations studied, the same function was employed for different segments of the data; all ranges gave elasticities indicative of decreasing returns to scale.<sup>4</sup>

The data of Table 2, also based on a Cobb-Douglas function of constant elasticity, were derived by means of simultaneous equations and give some suggestion of returns to scale in crop and livestock production in Southern Iowa for 1947. The estimates suggest that crop production took place under decreasing returns (a 1 per cent increase in all resources gave an .81 per cent increase in output) while livestock production took place under conditions of increasing returns. Farms in the area have relatively little capital in livestock. (It is interesting to note that livestock elasticities are also high in Table 1.)

<sup>4</sup> A production function derived for Southern Iowa farms in 1950 gave the following results where  $Y$  refers to the value of farm production,  $R$  refers to real estate (land and buildings),  $L$  refers to labor,  $M$  refers to machine services,  $F$  refers to livestock and feed services and  $Z$  refers to miscellaneous resource service.

$$Y = .31 R^{-.21} L^{-.03} M^{-1.0} F^{-.40} Z^{-.25}$$

The exponents of this logarithmic function are elasticities: an increase in real estate by 1.0 per cent is accompanied by a .23 per cent increase in product. Since the sum of the elasticities is 1.11, increasing returns to scale should be indicated. However, a test of significance indicated that, at a 5 per cent probability level, the results do not differ significantly from constant returns.

A production function estimated by means of simultaneous equations for cash-crop farms in Central Iowa for 1948 resulted in the following regression equation with inputs aggregated into labor ( $L$ ), all capital services ( $C$ ) and land ( $R$ ):

$$Y = 1.46 L^{-0.6} C^{-0.7} R^{-0.7}$$

While the sum of the constant elasticities is 1.1 suggesting that an increase in all factors by 1 per cent results in an increased output of 1.1 per cent, the statistics do not differ significantly from linear.

Early studies such as that of Warren suggested increasing returns to scale or declining average costs through the ranges of farm sizes studied<sup>5</sup>; the relatively greater labor return or management profit on large farms implies, apart from the imputational difficulties mentioned elsewhere, some nature of factor or cost savings as output per farm is expanded.<sup>6</sup> More recent studies based on the same technique of estimation suggest the same thing for prosperous periods but imply decreasing returns during periods of unfavorable prices. Much work is yet to be done, however, before any refined knowledge will be had about scale relationships in farming.

TABLE 1

*Elasticities Indicating Returns to Scale Relationships for a Random Sample of Iowa Farms, 1939*

FARM TYPE	ELASTICITY OF PARTICULAR RESOURCE SERVICES					Total elasticity
	Land	Labor	Equipment	Livestock and feed	Other resource services	
Crop farms.....	.24	.07	.08	.53	.02	.94
Hog farms.....	.07	.02	.10	.74	.03	.97
Dairy farms.....	.10	.01	.06	.63	.02	.82
General farms.....	.17	.12	.16	.46	.03	.94
Large farms.....	.28	.01	.11	.53	.03	.96
Small farms.....	.21	.05	.06	.43	.03	.81

TABLE 2

*Elasticities Estimated for Crop and Livestock Production in Southern Iowa, 1948*

RESOURCE	ELASTICITIES IN CROP PRODUCTION	ELASTICITIES IN LIVESTOCK PRODUCTION
Land.....	.36	.04
Labor.....	.44	.17
Capital in equipment, machine services, buildings, crop services, etc.....	.01	.41
Capital in livestock.....	—	.49
Total elasticity.....	.81	1.11

#### SIZE AND COST ECONOMIES

While the size of the firm can be increased through scale adjustments, major changes in farm size and most of the concern about farm size revolve around semiproportionality adjustments. One farmer operates 160 acres with a general-purpose tractor and 15 months of labor; another operates 240 acres with the same complement of machinery and perhaps 20 months of labor. A third farmer

<sup>5</sup> G. F. Warren, *Farming in Tompkins County, New York*. New York Agricultural Experiment Station Bulletin 295.

<sup>6</sup> See Heady, "Elementary Models in Farm Production Economics," *Journal of Farm Economics*, May, 1948 for the imputational problems concerned.

may operate 420 acres with two large tractors and 24 months of labor. In neither of these cases is the difference in farm size reflected by proportional adjustments in all resources or by homogeneity in form of resources. Thus in the remainder of this paper we use the term "change" or "difference" in size to refer to different firm or plant capacities which are possible through expansion by either the scale or proportionality route or some combination of the two.

*Cost economies and diseconomies.* The popular public concern over farm size has been in terms of the average costs for farms of different acreages and the competitive advantage of large as compared to small units. Hence we pause to examine cost economies and diseconomies from whatever source they may arise. By cost economies or cost diseconomies we refer to phenomena which cause costs to decrease or increase respectively as size of the plant and output are expanded either in the true scale or the proportional (some factors fixed) sense.

#### LONG-RUN COSTS AND FARM SIZE

Of all the possible forces which may give rise to cost advantages for large-scale farms, internal physical economies growing out of proportionality relationships are most important. These proportionality adjustments are reflected largely in changes in the level and form of fixed factors rather than in pure scale adjustments (although the latter are partially involved). The historic concern of agriculturists over mechanization and farm size is an expression of the belief that cost advantages are brought about largely by this combination of forces. Ordinarily it is pointed out that while one farmer using horse power or a small tractor can reduce per unit costs by cultivating more acres, an operator with a single large tractor and a set of high capacity machines can cultivate even more acres and realize much lower per unit costs because of lower labor requirements and the spreading of fixed machine costs over a larger output.

The structure of long-run costs in various segments of agriculture is fairly well a subject of speculation. Although the subject has been the center of debate for several decades, little is actually known about the structure of long-run costs (the level of the various short-run cost curves for farms of different sizes). It appears clear that a range of cost economies, growing out of proportionality (different amounts and forms of fixed factors) prevails in all types of agricultural production. How far these decreasing costs extend and whether they merge immediately with increasing costs has not yet been established. Analysis of available engineering and cost data, however, make it fairly evident that the greatest cost economies associated with units of different sizes are to be found in crop production where power units and machine combinations of high capacities can be substituted for labor and fixed costs can be spread over a large acreage. The relative advantage of the large unit depends, of course, on the cost of labor as compared to the cost of capital in the form of high capacity machinery. With very low wage rates relative to machine prices, small farms are in a more favorable position. The reverse is true; then labor/machine price ratios are high. Large-scale cost advantages stand to be greatest in grain farming regions such as the wheat areas of the Great Plains and the cash crop systems of the Cornbelt.

Mechanization also may lead to important future changes in the structure of costs and farm size in the major cotton producing regions, depending on the relative adjustment of wage rates to the new situation.

Advances in machines which substitute for labor have not been great in animal production. Under existing techniques, the optimum number of animals which can be handled by one man is soon attained and further economies are not great when two men are employed and twice as many animals are produced. While some further division of labor and specialization in tasks is possible, a two-man dairy herd requires about double the labor and small equipment (pails, milking units, etc.) as a one-man herd. Some savings are made for a barn which holds 32 cows as compared to one which houses 16 cows. However, "length-wise" expansion of the barn saves only the materials required for two ends. Under range cattle or sheep production, labor-saving equipment with high fixed costs, except perhaps in haying, is not important and a four-man unit requires almost double the capital outlay of a two-man unit. In most types of livestock production, feed represents the major resource employed; there are few if any feed economies as the size of the herd or flock expands. From this standpoint, choice of more small, "family farms" by society would likely entail less sacrifice in production efficiency if it were applied to livestock rather than crop farming.

#### EFFICIENCY CONCEPTS AND FAMILY FARM DEFINITIONS

In their varied definitions of the family farm many people, including agricultural economists, imply that it is the most efficient producing unit; then they immediately suggest that it is in danger of being liquidated by large-scale units. The logic employed here is inconsistent; if the family farm were actually the most efficient producing unit, it would be represented by the minimum point on the long-run cost curve. It alone could survive in the long-run; larger units would be eliminated.

Other definitions suggest that the family farm is one where (1) all management is provided by the farm family, (2) more than half the labor is furnished by the family, and (3) returns on resources are as great as might be earned in alternative employments.<sup>7</sup> This definition also implies that, in terms of general equilibrium analysis, the family farm is the most efficient producing unit. Accordingly, there is no basis for the further suggestion (and one which almost always follows) that "the family farm is in dire danger of being eliminated by sinister forces."

If overall efficiency conditions are to be attained, the optimum scale of farm and employment of particular resources is defined in equation I below where  $P_y$  refers to the price of the product,  $MP$  refers to the marginal product of the resource denoted by the subscript while  $P_l$ ,  $P_e$ ,  $P_o$ , and  $P_m$  refer to the prices of labor, capital, land and management resources respectively. Here the size of the firm must be expanded in a fashion that (1) the value of the marginal product for

<sup>7</sup> The elements of this definition can be found in Ackerman and Harris (Editors) *Family Farm Policy*, University of Chicago Press, Chicago, 1946, pp. 385-391.

any resource unit must equal the price of the resource unit and (2) this ratio must hold true between all resources.

$$P_y \frac{MP_1}{P_1} = P_y \frac{MP_e}{P_e} = P_y \frac{MP_0}{P_0} P_m \frac{MP_m}{P_m} = 1.0 \quad (I)$$

The last family farm definition, although it specifically implies equation I, states that the farm can be only large enough that the management and the major part of the labor resides in the farm family and therefore specifies condition II. Here the marginal value product can be equated with the cost of resources for land and capital but this condition cannot be attained for labor and management.<sup>8</sup> The upper supply of labor and management is given in the entrepreneurial and sociological structure of the farm family. With limits on the input of management and labor services, the amount of capital or land services which the farm firm should purchase (to equate value products and factor prices and to maximize returns) depends on the limited supply of the other two resources. The optimum size will differ between farms depending on the stock of labor and management possessed in the household of each and it need not result in the most efficient use of a nation's resources.

$$P_y \frac{MP_e}{P_e} = P_y \frac{MP_0}{P_0} = 1.0 < P_y \frac{MP_1}{P_1} \quad \text{and} \quad P_y \frac{MP_m}{P_m} \quad (II)$$

#### A FORECAST OF A NATURE

It is doubtful that technical conditions and cost economies are of a nature in most segments of American agriculture to endanger the units typically operated by farm families. We are willing to speculate that beyond a limited size, cost differentials and scale returns are less important than other considerations in limiting farm size or in allowing a varied pattern of farm sizes. We cannot see that cost advantages alone will force a revolution in farm size over the next one, two, or three decades. Aside from the elimination of small, inefficient and low-income farms in a full-employment economy (through cost competition and higher returns in non-farm employment), we would expect the varied pattern of farm size which now characterizes American agriculture to be retained. In a full employment economy, farm consolidations are likely to be brought about as much through the accumulation of equity and wealth per se by individual farmers as through-cost or scale economies. With the techniques now open to farmers, unit cost reductions are not great after size and scale have been extended over a limited range. These gains are unimportant in livestock or other types of "labor" production once output has been extended to a point which fully employs the time of one or two men; cost or scale economies for larger livestock units are only slight and undoubtedly loom less important in the farmers mind than uncertainty considerations. Similar statements can be applied to crop production. In analysis of Cornbelt, cash grain production, the writer found that acre costs declined from \$35 (with operator labor included) per acre for a 40-

<sup>8</sup> Another possibility is that the stock of labor and management possessed by the family is great enough to drive the ratio value-of-product/price-of-resource to 1.0. Optimum resource use could then be attained under the definition.

acre farm operated with a one-plow tractor to \$25 for a 160-acre farm operated with a two-plow tractor. Further increases in machine size and acres operated result in unimportant differences: A 320-acre farm operated with a three-plow tractor reduced costs to only \$23.34 per acre, while a 320-acre unit operated with a two-plow and a one-plow tractor combination lowered costs to only \$24.36. Indeed, the decision on whether the farmer will operate a 160 or a 320-acre unit depends less on the saving of approximately a dollar per acre than on the uncertainty entailed as he risks his own capital or borrowed capital to increase the scale of his plant and firm.

#### A REALISTIC APPROACH

The notion that all boys born in agriculture should remain in the industry is, of course, quite absurd. As the important industry where births exceed deaths, all boys born in agriculture could become farmers and owners only as the number of farms grew indefinitely larger and the size of farms grew indefinitely smaller. Had this process taken place continually since the birth of the United States, farm units would now average small parcels. If this vein of thinking were applied to all industries, it would mean, on the one hand, that only the sons of dentists could enjoy the "right" to become dentists; only salesmen's sons could become salesmen and only professors' sons could become professors. On the other hand, it would mean that capital invested in the automobile industry could come only from persons currently owning automobile stock or from their sons; the "right" of investment in city rental property would be restricted to persons now engaged in this undertaking or to their children. In other words, each industry would be set aside in a tight compartment. While industries would be allowed to trade products, they would not be allowed to transfer investment and resources across the "industrial borders." The final result would be a segmented producing organism wherein returns on resources would be extremely great in some sectors and extremely low in other sectors.

The basic need from the standpoint of fundamental problems in agriculture is of an opposite nature. Rather than hold increasing amounts of labor in agriculture where it must drudge out a meager living, we need to help farm children move out of distressed areas of agriculture into other areas and other industries where returns are greater and the level of living can be higher. At the very minimum, farm children should be made acquainted with outside opportunities and provided with the education and skills which fit them for non-farm occupations. Labor and human resources represent the most important products produced by agriculture. The gain to be had from these resources, in excess of replacements needed in agriculture, is in producing the commodities and services of non-farm industries in order that the general standard of welfare can be raised even higher. With full knowledge of alternative employments, farm children could then better apply their own choice indicators (preference functions) in selecting agricultural as compared to other forms of production. To the extent that farming is preferred solely because of its security from major business cycles, the important task before society is one of eliminating this major economic imperfection rather than one of designing, as an imperfect substitute, a policy of "more and smaller farms."

## LABOR AND GOVERNMENT IN NEW ZEALAND

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In November, 1949, the Labor Government in New Zealand was ousted at the polls by the National Party. In December, 1949, the Labor Party in Australia lost control of the government to the Liberal-Country Party. And in October, 1951, the Labor Party in England turned over the government to the Conservatives. The three Labor Parties had something more in common than the proximity in time of their election misfortunes. To a greater or less degree, each was a product of the recognition by wage-earners of common needs and problems resulting from changes in the organization of industry which accompanied industrialization. Each operated in the environment of English traditions, law, and government. They espoused similar ideals and programs. They faced like problems and opportunities during their tenure in office, and, to some extent, they attempted to resolve the challenges which confronted them in analogous ways. Though they possessed common features, the character of each was conditioned by circumstances of geography, location, population, nature of production, and cultural climate.

Study of the points of similarity and dissimilarity should reveal some provocative suggestions concerning the implications of political action by vested interest groups in a democratic society. While the English experiment has received extensive attention outside the British Commonwealth, the study of recent Australasian economics and politics has been more or less neglected by American students.

New Zealand is unique in the continuity of its governments. Since 1890, changes in government have occurred, on an average, only once every fifteen years. This fact alone is sufficient to make the character of these governments of interest, as well as the causes of their rise and decline. The experience of the Labor Government, however, invites additional attention because of its position as nominal spokesman for a large segment of New Zealand society with special needs and objectives. That the Labor Government during its fourteen years of office accomplished much for New Zealand cannot be denied. It committed its share of administrative blunders, without doubt, but its achievements in the field of social security, its conduct of the war, and its contributions to international affairs were recognized throughout the world. Why, then, did the Labor Party suffer the gradual and sustained loss of electoral support which resulted finally in loss of office?

Opposing factions in the labor movement tended to accuse one another of having contributed to the defeat of the Labor Party. Right-wing officials pointed to industrial disputes and blamed the Left. Left-wing officials said that the members of the Cabinet and the national officers of the Federation of Labor made certain defeat of the Government when they identified themselves with

conscription and when they deregistered unions under the Industrial Conciliation and Arbitration Act for adopting strike action. Foreign observers were inclined to credit the 1949 election as evidence of repudiation of the "Welfare State." Farmer groups within the country inferred that the turning-out of the Labor Party was the inevitable consequence of a government devoted to the solution of industrial problems at the expense of more "solid" agricultural elements. Old-time socialists accused the party of changes in attitude and political principles, while anti-labor critics implied that this was merely a belated recognition of the natural impossibility of utopian schemes. Others attributed the waning confidence in the party to senility of the leaders, to social or financial pressures, or to a simple lack of imagination.

Unfortunately, those who know most about a subject cannot always be expected to furnish a detached view. Floods of pious sentiment or vindictive reproach may be effective as homiletics, but they are not particularly illuminating. Neither is it sufficient to obtain a dispassionate view or even to ascertain the objective facts. Fruitful understanding of any organization depends not only upon knowledge of the features peculiar to it, but upon the ability to relate those features to social phenomena of a more general character, to disentangle the relevant circumstances out of which the movement arose, to recognize the efficient causes which molded its development, and to show what changes it is experiencing under the influence of forces currently at work within it or impinging upon it from outside.

It is unlikely that the election of 1949 was, as some proclaimed, a rejection of New Zealand's traditional search for collective security. In spite of nominal differences from the older political parties, and a characteristic approach to certain types of legislation, it can be reasonably argued that the policy of the Labor Government arose naturally out of a century-old approach to social problems. The other explanations of the defeat of the Government may be conveniently grouped under two major causes of disaffection which deserve fuller investigation. The first of these, voiced by dissatisfied labor constituents, was that the Government had sacrificed the labor traditions for which it stood, and the second, coming from those outside the Labor Party, was that the Government had failed, through its inability to handle industrial disputes, to organize the forces of production with the efficiency which it had promised. Superficially contradictory as these criticisms appear to be, the deficiencies of the Government in both cases had their origins in a common cause—the political necessities of administration under a system of popular election.

When the electors went to the polls in 1949 they were faced, as in the previous election, with a choice of competing parties offering policies which were administrative variations of similar programs rather than genuine alternatives based on conflicting political principles. It was not uncommon for the voter who read the campaign pledges of both parties to find that the procedure by which the National Party proposed to preserve the economic structure was practically indistinguishable from that by which the Labor Party intended to reform it. Although the policies of the two parties were set apart by different ideological

costumes, there was broad agreement on conscription, foreign policy, social security, employment, and industrial policy. However widely their political manifestos may have varied in discreet references to ultimate objectives, circumstances set definite limitations on the character of campaign promises. The National Party could no more recommend abolition of guaranteed prices for the dairy industry than the Labor Party could advocate nationalization of the land.

Similarities in party programs were due partly to the need for attracting the same group of undecided voters. Whereas the changes in administration which occurred in 1890 and 1911 may be regarded as political expressions of a permanent change in the social composition or economic organization of the country, neither the electoral majority of the Labor Party in 1935 nor its subsequent decline were such an expression. The victory of the Liberal Party in 1890, for example, heralded the growth of a new social group. The invention of refrigeration, by increasing the profitability of small landholding, created a new division of social interest; the basis of the Liberal Party was promotion of the interests of the landless, including an incipient urban industrial class, in opposition to the prevailing system of large-scale sheep stations.

Similarly, the rise of the Reform Party reflected the growth of a numerous group of small landowners. It was not a reincarnation of the old landed oligarchy, but rather a new party representing a new class of small farmers which developed out of the legislation of the Liberal Government. During the tenure of the Reform Party, industrialization was making a substantial change in the composition of the population. In 1911, the population of urban districts for the first time exceeded that of rural areas. The gradual growth of Labor representation in Parliament during the 1920's and early 1930's may be taken as indicative of the development of a new urban industrial class with peculiar interests determined by the conditions of their life and employment. The Labor Party was not a new version of the Liberal Party, but a new party representing a greatly expanded working-class. With increases in the numbers of industrial workers, the Labor Party attracted increased votes at every election during the 1920's.

It must be noted, however, that at the time the Labor Party took office, industrial occupation had not become the pervasive condition of New Zealand life. Political success, therefore, depended upon attracting a fairly large number of non-labor votes. By 1935, the triumph of the Labor Party in the cities was a foregone conclusion. The mass of unskilled workers, as well as craftsmen, with the exception of a few Communists, could be counted upon as voting for the Labor Party. Who were those whose votes stood in the balance? The farmers had historically been the backbone of the Reform Party; it was, however, chiefly the appeal of the Labor program for monetary and credit reform to those in the country areas which brought it to power in 1935. The remainder of the floating vote which was attracted to the Labor Party seems to have consisted of white-collar workers, who sometimes identified their own progress with that of their employers, and sometimes with that of employees as a group. It also included a number of professional men, school teachers, civil servants, and others whose

security was guaranteed and who voted on grounds of broad political opinion rather than on considerations of personal economic advantage.

As the uneasy marriage of convenience between distressed farmers and city laborers was dictated by temporary economic conditions, it was destined to be short-lived. The expedience of the alliance diminished with the rise in prices during the war. It became apparent that the interests of the farmer and the city worker were in conflict. In a closed economy, one may argue that high wages benefit the employer in the long run, because they increase the purchasing power of those who buy his goods, but in New Zealand the farmer produces almost entirely for export. The Government could not ignore the urban worker, but it was hardly possible to control imports, raise wages, and foster secondary industry without forfeiting support of the farmer.

Some elements of the floating vote were disaffected by the inevitable shortages and inflation accompanying the war. With prosperity restored, others doubtless felt compelled to renew former political allegiances. Still, one would have to be a cynic indeed to insist that politics is such a rotten business that parties can only maintain themselves in office by virtue of their "hand-outs." Sustained political supremacy would seem, in addition, to depend upon an effective rationale—for the voter is, after all, an integrated personality, and the material aspirations of his life cannot be isolated from the whole mass of influences, personal and cultural, which operate upon him as a citizen, a church-goer, or a pleasure-seeker. In this sense, a government is not merely an administrative arrangement whereby one class achieves representation, but an organization presided over by a class with an effective will-to-power, which implies the ability to convince other classes that they know best how to operate the apparatus of society upon which the welfare of all depends. It was the claim to harmony between entrepreneurial self-aggrandizement and the well-being of society as a whole which capitalism made its *raison d'être*. The Labor Party based its argument for socialism on a similar rationale, in which the interests of the workers were identified with that of the community.

Recognition of the influence of political rationale is of first-rate importance. It suggests that the explanation of the defeat of the Labor Party must be found, not in economic conditions which the Government was powerless to control, but in the relations of a political labor movement to the working-class.

During its administration, the Government was confronted with an ever-increasing number of industrial disturbances. Some discontent was inevitable, of course, after fourteen years in office. But there were more substantial reasons for disenchantment. With or without reason, a large number of working-class groups felt that, in comparison with others, they had received less favorable treatment than they deserved. The Labor Government was charged, in addition, with basic violations of trade-union principles to which its leaders were committed when they assumed office. For its part, the Government tended to treat industrial dissatisfaction as vicious, unjustified, and traitorous. It is no less important to determine which, if either, of these two sets of accusations were correct, than to inquire into their cause. That dissension in the labor movement affected the floating vote cannot be denied. One of the strongest assets of the

Labor Party in 1935 was the widespread feeling that it had "ideals"—that it was concerned not merely with the self-seeking aims of vested interests, but to help the country in general. By 1949 that feeling was largely lost. Any extensive planning accompanied by imposition of additional economic controls may give rise to conflict of interest between those whose privileges are curtailed and those in whose favor administration is directed, but the complicating fact in New Zealand was this: that the party which imposed penalties on strikes, compulsorily directed labor, and asked restraint in wage demands was the party which was founded by and supported by the unions. The resulting conflict between the desire of workers to support the Labor Party and their economic interest appeared in an internal struggle which discredited the Labor Party among its nonunion supporters.

In analyzing the activities pursued by both the Labor Party and the trade unions, it is desirable to recognize that every social organization which looks forward to a continuity of existence has two sets of purposes: the first comprises its ostensible aims as representative of its component members, and the second comprises its aims as an organization. As Arthur M. Ross has so ably demonstrated, failure to differentiate between the demands of these two types of objectives may result in an imperfect appreciation of the considerations which govern the leaders in formulating and implementing policy.<sup>1</sup> Whereas the first purpose requires a sufficient satisfaction of the needs and desires of the membership to maintain their allegiance to the organization, the second demands policy formulation along lines appropriate to maintenance of the organization as a going concern.

In the case of conflict between the apparent purpose of the organization as the representative of its members and its continuance as a going concern, the objective of preserving the organization necessarily takes precedence. For example, the purpose of a business corporation is nominally the maximization of benefits to its component owners in the form of profits. In practice, the organization ceases to be a mere extension of the personality of its owners and acquires a second aim—continuance of the corporate organization. In the interests of organizational survival and growth, decisions are made concerning distribution of earnings, production and sales policies, capital structure, and selection of management officials, which may not fully promote the personal interests of the prevailing owners.

Again, in the case of a religious organization, the ostensible purpose is salvation of the souls of its congregation. In pursuing this objective, however, the organization will not go so far as to deny itself existence. Numerous examples come immediately to mind: minor concessions of religious principles made to appease wealthy members, racial segregation in countries in which the cultural *mores* demand it, and so on. The church gives expression to the cultural conditions of the time and place in which it is situated, because to do otherwise would be to destroy the existence of the organization itself.

Finally, to the nominal end-in-view, and the organizational purpose, may be

<sup>1</sup> Arthur M. Ross, *Trade Union Wage Policy*. University of California Press, Berkeley and Los Angeles, 1948.

added the vested interests of organizational leaders, which may occasionally be at cross-purposes with member welfare, or with organizational security, or both. Conflict between the interest of the leadership in maintaining status and in maintaining the organization are rare in a well-organized group. Indeed, one might almost define a good organization as one so constituted that the personal advantage of the leaders is best served through furthering organizational purpose.

The above observations seem evident, if not trite, when expressed in general terms, but in practice the exigencies of organizational aims as opposed to the aims of individual members have not been adequately recognized. A political party cannot govern solely in the interests of the class which it purports to represent. Prudent reconciliation of conflicting interests is the essence of politics, and the Labor Party in the hands of different leaders would have had no less to amend traditional objectives in order to defend its parliamentary majority.

It may be convenient to classify the pressures exerted upon the Labor Government in New Zealand according to their several origins and natures. On the international front, party policy was influenced by the exigencies of war and possible invasion by a foreign army; by the economic obligations of foreign-held debt; by the commitments imposed as a signatory to international conventions and treaties, such as trade agreements and military pacts; by the international demand for the products of the country and the supply of foreign made goods available; and by movements in international prices. In addition, there were customary or sentimental obligations, such as the complex which binds together the British Commonwealth of Nations.

Within the Dominion, legislative policy had to be molded with an eye to the possibility of encroachment by the Opposition Party, to the limiting framework of parliamentary institutions and the electoral system; and to the necessity for assuring the workable voluntary cooperation of those with special economic interests, such as farmers, manufacturers, and traders.

Within the Labor Party, respect had to be paid to the constitutional procedures and conventional principles of the party. At the same time, those responsible for guidance had to meet the threat of new aspirants to leadership. However, they could not fail to show sympathy to expressions of opinion by the rank-and-file—expressions which were themselves contradictory. All of this had to be accomplished within the web of divided authority and responsibility radiating from the Cabinet, parliamentary members, unions, and the party conference. One could not hope to harmonize so many conflicting demands and to enlist them in support of a common effort without some sacrifice of objectives. During the depression and war years, there was a unifying purpose which was sufficiently compelling to convince the various participants in the political contest that a temporary suspension of personal interests was essential. The real test came after the war, when increased production of civilian goods, a high level of employment, and rising prices made individual interests paramount.

Trade unions are no less political organizations than are national governments. The professed objectives of unions, it is true, depend upon the needs of

the membership. The continued existence of the union organization depends upon the essential unity of outlook requisite to a clear definition of organizational purpose, and upon the rendition of satisfactory service by the union in fulfilling these wants. In representing his union, however, the leader must keep in mind not only the ostensible purpose of the organization as representative of the interests of the members, but also the organizational survival of the union, which embraces the political and administrative decisions necessary to reconcile these interests with employer opposition, the possibility of government intervention, the incursions of rival unions, and industrial limitations. It may occasionally be necessary to sacrifice the immediate interests of the workers in the pursuit of organizational security. Thus, blatantly extravagant demands are sometimes made upon employers for organizational reasons, and at other times less favorable conditions are accepted than those which could have been obtained through the exercise of greater pressure. The preservation of traditional differentials may be required, despite changes in the relative bargaining power of groups of workers. Or, union security may demand that all members of the organization receive equal wage treatment, despite the fact that some members of the group are in a position to obtain greater concessions from employers than are others.

When it is recognized that the union has organizational needs and opportunities independent of those of its members, many aspects of its behavior, which would otherwise appear to be irrational, are seen to be reasonable attempts to preserve and enlarge the welfare of the organization. To ignore the complicating influence of organizational purpose is to assume that unions are only an aggregation of individuals, without recognizing that the groups into which these atoms are associated are more or less selective in membership, impose unique rules of conduct, and are more or less differently affected by external forces making for change.

Dating almost from the time the Labor Party took office, accusations were made that it had betrayed the ideals of labor which it had established while it was in Opposition. Accusations were freely returned by the Labor Government to the effect that the unions were subverting the principles of the political labor movement. Both contentions were quite true. Since the unions and the Labor Party were representative of the same body of workers, it appeared to the casual observer that their policies should have taken the same course. Deviations appeared capricious, naive, or subversive. If organizational aims are taken into account, however, the policies of both may be seen to have been both logical and consistent. In a sense, the leaders of neither political nor industrial labor could be said to be responsible for the directions which their policy took. Whatever the political attitudes of the leaders of the unions and the Labor Party might have been individually, all were guided first and foremost by the need of accommodating their policy to the requirements of organizational security, and the same unions or the same government if in different hands would have been similarly disciplined.

Conflict occurred then, not on the level of the nominal aims of the Labor

Party and the unions—both purported to further the interests of the wage-earner—but on the level of organizational survival. Both organizations were fighting for existence in a situation in which the pressures exerted upon them in order to maintain themselves as going-concerns was of such a nature as to demand mutually incompatible policies.

In public addresses, statements to the press, and annually at conferences of the Labor Party and the Federation of Labor, the Prime Minister and members of his Cabinet described industrial disturbances as "disruptive tactics designed to advance some sort of Communist revolution." Except in a few obvious instances, however, it does not appear that Communist leadership was responsible for fomenting disputes. There is a definite limit to the area of action to which the leadership can commit a union, in the absence of positive support by the rank and file. This is particularly true in the framework of a union structure, such as is found in New Zealand, which is composed of small local units, and which lacks the inertness and apathy of a complicated hierarchy. The method of the numerically small Communist Party seems to have been to throw all their energy and effort on the side of the workers after legitimate dispute arose. There were few important industries in New Zealand which did not become embroiled in dissatisfaction over wages and work conditions after the war, and the number of workers involved in the resulting disputes included a substantial number of New Zealand workers. Were the Communists as numerous as the Prime Minister alleged, they could have constituted a powerful parliamentary force. In any event, simply to attribute strikes to Communists offers no solution to the underlying problem of why workers became attracted to Communism, or why non-Communist workers under Communist leadership were willing to undergo voluntarily the privations which inevitably accompany a strike. It is reasonable to conclude that the prominence given to participation by Communists in industrial disputes was out of proportion to their numbers, and was due mainly to their policy of dramatizing and exploiting situations in which they became involved.

A costly strike to obtain a trifling concession in wages or conditions or to protect a single worker from some injustice may seem anomalous to the lay critic or even to a Labor Government, particularly when the strike losses exceed the sum of money benefits being sought. Nevertheless, if the union is to be preserved, strikes over apparently inconsequential issues must sometimes be undertaken in order to keep peace in the family; and the decision to press one type of demand rather than another depends upon a delicate political ability to apportion benefits according to the division of strength within the union. From the viewpoint of the Government, it may be politically expedient to require a wage stabilization program, but the leader of the union knows only that if the workers of his union feel that they are entitled to larger benefits than they are obtaining, they are going to become dissatisfied and either seek a new president or lose interest in the organization.

It has been common to treat the Labor Party as merely the political expression of the industrial labor movement. But the method of trade or industrial

organization is the direct, non-political representation of workers, resting either implicitly or actually on coercive techniques. The effect of arbitration proceedings by the State, on the other hand, is to make the bargaining strength of weak and strong unions practically equal, thus obviating the need for union organization. The function of union organization is group pressure to achieve a differential advantage for members of the group in terms of wages, hours, overtime pay, apprenticeship rules, bonuses, working-conditions, holidays, seniority rules, and other aspects of the job. The government, however, can ill afford to sanction unequal treatment of workers by the Court of Arbitration, or to impose the discrimination on employers. The efforts of unionists, as such, to achieve non-political relief for injustices, real or imagined, brings them into inevitable conflict with labor's political wing, motivated by different, if no less desirable, motives. For the unions to relinquish the right to strike, when there is an obvious immediate advantage to be gained by that course of action, or when policy reasons recommend it, would be suicidal. Similarly, for the Government to condone strikes would be destructive of its interests. In effect, the allegiance of workers is claimed by two organizations whose methods are in conflict.

In ideology, techniques, and physical circumstances, then, the Labor Party and the unions found themselves in conflict. Need this have been the case? Union functions as historically conceived became what they were under the influence of some past social order, and when that order changes, many of these functions deserve less emphasis, while other duties arise that it is imperative to assume under the new pattern of social relationships. Many of the benefits which unions have customarily offered their members seem to be obsolete under Socialism. The wider the range of social services which the community effectively organizes, the more narrowly is the area of union benefits circumscribed.

It is interesting to note that those members of the Labor Government who most bitterly denounced strikes were the leaders who had most vigorously led strikes three decades earlier. Their argument was that when a Labor Government shoulders the task of operating industry, and in many cases actually becomes the employer, the function of labor unions must change from economic coercion to positive cooperation in achieving the maximum industrial output at the least possible real cost. Workers obviously cannot continue through the union organization to fight the Government as in the past they fought capitalist employers. They must instead become, in part, instruments at the service of the State for securing improved industrial efficiency, if Socialism is to prove itself capable of offering better service than Capitalism. With each succeeding step toward ownership of industry by the people as a whole, it becomes progressively less tolerable for any single group of workers to benefit themselves at the expense of others, and collective advance depends upon the total improvement of production.

Unfortunately, the necessary transformation was more easily stated than it was achieved. The major areas in which economic planning by the State impinged upon traditional union objectives were in limitation of wage demands, elimination of restrictive work practices, and the prohibition of strikes. Without

regulation of wages, assurance of a reasonable work effort, unrestricted worker mobility, and freedom from strike disturbances, it is difficult to see how any program of planned economic development could succeed. The areas named, however, are those which are most important to successful unionism. Recognition of the legal status of unions by the government or by employers is an empty symbol if that recognition does not extend to pursuit of those objectives which form the basis of organization and which the leaders are required to satisfy as a responsibility of office. Limitation of the right to strike, for instance, put a severe strain on some union organizations. Leaders who attempted to observe restraint were alienated from members who demanded higher wages. In such a case, Communists entered the breach and held out promises of higher wages than could be obtained by officials who tried to comply with the policies of the government. The approach of the Communists, it is interesting to note, was shared by members of the conservative Opposition, who appealed to labor with the argument that economic planning destroyed the freedom of the union and the individual worker.

The parliamentary members of the Labor Party never tired of appealing to unionists to recognize the changed nature of their responsibilities which had to accompany any transition from Capitalism to Socialism. They were variously hurt, bewildered, and enraged by the failure of certain sections of the unionists to respond to these pleas. But preaching is clearly not the solution. So long as the institutional pattern is such as to offer advantages from a certain course of action, men must be expected to pursue that course. If unions are to become socially responsible, the action which is demanded of them must also satisfy organizational self-interest. Far from endowing the unions with social purpose, the elevation of the Labor Party to a parliamentary majority in New Zealand offered an inviting opportunity, for those unions economically in a position to exploit it, to negotiate between Socialism and private enterprise for the best bargain.

It was here that the political insecurity of the Labor Party diminished its persuasiveness in appealing to the unionists. The reaction of the government to disruptive tactics by unionists was basically the same as that of any other employer. Rather than attempt to reconstruct the institutional framework of society so as to canalize the activities of unions into socially useful directions, which would have required sweeping innovations and which might have jeopardized the electoral majority of the party, it bargained with the unions. It attempted at the same time to strengthen its bargaining position and to weaken that of the unions. In order to attract public support to the government, economic coercion was resorted to in the effort to force workers back to their jobs. Suggestions were made that workers who struck were political conspirators. Union leaders were discredited. In extreme cases, unions were deregistered and new unions formed. The tactics of the government constituted a frontal attack on the unions, whose leaders felt that the very life of their organizations was threatened. For strategic reasons, the leaders took advantage of every opportunity to strengthen union security. It was their long-run defense against extinction.

It appears that the difficulty of the government was due to a failure to make union cooperation sufficiently attractive, or, in other words, to substitute for socially destructive aims a form of constructive activity which would satisfy the requirements of union security equally well. Union leaders took the course they did because non-cooperation offered benefits which it was politically impossible to ignore. Given an ideal situation such as the government contemplated would exist under Socialism, in which workers took an active part in industrial planning, in which increased efficiency yielded a greater production, and in which workers were granted a full share in the product of their labor, the argument presented by the government that workers were "striking against themselves" would achieve force.

It is not suggested that the government should have solved its problems by unconditional surrender to union demands. Indeed, it could not, if it wished to remain in office. Unions should not be allowed to exercise dictatorial powers over the State, nor can they have such power as long as democratic processes are preserved. On the other hand, neither should the unions become mere instruments for the execution of the policy of the government. The workers, like everyone else, must retain the right to act in concert with their fellows in resisting arbitrary acts by the State, just as they do against private employers. But under a system of public ownership, the positive benefits of unionism must accrue through contributing to industrial efficiency rather than through holding the community to ransom. The best way to induce voluntary cooperation would have been to make it materially advantageous. The Labor Party failed to provide the unions with functional responsibilities commensurate with the new society which it proposed to create. Having failed to eliminate the obvious advantage of coercive action, or to supply the unions with alternative functions offering greater attractions, the government suffered disruptive attacks which destroyed the rest of its program.

It may not be amiss to emphasize again that the course of action taken by the government was dictated by the size of its parliamentary majority. The leaders of the party were not insensible to the fact of worker dissatisfaction, nor was there a lack of concrete policy proposals by unions, the members of the Labor Party, the Federation of Labor, the Fabian Society, academic theorists, and other interested spectators. It is not necessary to consider here the merits of these programs, which included such proposals as investment controls, taxation reform, public ownership of key industries, revision of the Industrial Conciliation and Arbitration Act, and increased worker responsibility in management. The essential point is that these were inaccessible options as far as the government was concerned. A government which is secure in office can afford to offend the transient vote and to make important innovations to satisfy the internal demands of the organization. But a government in the position of the Labor Party in New Zealand, which enjoyed a narrow majority, must appeal to transient and desultory sources of support, and if necessary will disappoint its more steadfast constituents who are less likely to be disaffected. Whereas during its early years in office the government enjoyed a comfortable majority which allowed it to introduce a vigorous legislative program, during its last years the

most bitter disputes were not with political opponents but with traditional supporters. Critics were right in saying that the Labor Party was abandoning fundamental labor policies, but they were wrong in supposing that if different individuals had been allowed leadership, the state of affairs would have been different.

A marked swing of public opinion is not necessary to cause a change of government in New Zealand. The close balance of electoral power between farmers and workers means that a small transfer of votes from one party to another is sufficient to replace a government. In the attempt to keep both major classes behind it, the Labor Government failed to please either. While the first parliamentary seats lost were those representing farm areas, defeat ultimately resulted from loss of support in secondary cities and some metropolitan districts. In the light of increasing similarity between the program of the Labor Party and the Opposition Party, those voters who had no permanent political affiliation were led to withdraw support chiefly because of the inability of the government to find a satisfactory solution to industrial troubles.

To a large extent, the problems of the Labor Party arose out of conditions peculiar to New Zealand. The future of the party is dependent upon the development of a program which allows the unions to carry out their functions on behalf of the workers without becoming a disruptive factor in society. New concepts must be forged, and a new pattern of industrial relations developed. The ability of the government to unite effectively the energies of the Dominion need not presuppose the undemocratic use of authoritarian power to impose desirable forms of behavior. If the Labor Party is to fulfil its historical purpose, it must accomplish its ends through a convincing demonstration of a superior contribution to the moral and material well-being of society.

## COMMUNICATIONS

### THE RE-EXAMINING OF KEYNESIAN ECONOMICS: COMMENT

In a recent thoughtful article, Clarence Philbrook discussed "the controversy between Keynesism and old-fashioned orthodoxy."<sup>1</sup> By "old-fashioned orthodoxy" he apparently did not mean pre-Keynesian or classical economics but rather the reconstruction of pre-Keynesian theory that has been attempted by Pigou and others. Since that reconstruction is too recent to be called old-fashioned and too little accepted to be called orthodoxy, we shall here refrain from using Philbrook's phrase.

According to Philbrook, the choice between Keynesian and Pigouvian theories "requires the 'critical experiment' . . .," which he defined as "an event from which two or more theories respectively predict observable consequences which are different in observable ways."<sup>2</sup> But "we must make sure that it is under identical assumptions that the clashing predictions arise."<sup>3</sup> In seeking a possible critical experiment, therefore, Philbrook took care to make the assumptions identical, with the result that the two theories yielded remarkably similar predictions.

This should not have been surprising. It is difficult to see how two theories which are logically sound could yield different predictions unless one or more of their assumptions differed. In economics the difference between two competing theories typically is the ease with which they can handle different assumptions—not the same assumptions—and a critical experiment would be one which determines which assumption or set of assumptions yields better predictions. For example, let us take two theories: Keynesism and the quantity theory of money. The essence of the old-fashioned quantity theory of money was something more than the quantity equation; it was the assumption that the quantity of money is constant or at any rate stable. Now we could put the assumption of a constant velocity of money into the Keynesian framework. It would be a little clumsy to do; it would mean that the liquidity preference schedule would be absolutely inelastic; and it would further mean that there would be a different schedule for each level of income, with the whole family of schedules related in a certain way. But we do not want to do that if we want to get at the root of the difference between Keynesian theory and the quantity theory. Much of the point of Keynesism is an implicit denial that the assumption of a constant or even stable velocity of money is a useful assumption to work with. Hence, Keynes designed a framework which could permit a different assumption, namely a liquidity preference schedule which has some elasticity with respect to the rate of interest, so that in his system an increase in the quantity of money might lower velocity,

<sup>1</sup> "The Re-Examining of Keynesian Economics in the Light of Employment Experience," *The Southern Economic Journal*, Vol. XIX, No. 1 (July 1952), p. 21.

<sup>2</sup> *Ibid.*, pp. 21-22.    <sup>3</sup> *Ibid.*, p. 22.

though he would not have discussed the problem in these terms. So if we wanted to devise a critical experiment to decide between these two theories, we would want to start with different assumptions about the behavior of the velocity of money, even though we might want as many of the other assumptions as possible to be the same.<sup>4</sup>

But a critical experiment would not be likely to destroy either theory completely. Thus many who, like the present writer, doubt if the velocity of money is stable nevertheless find the quantity equation a useful tool with which to work. The choice between theories in economics often is a matter of convenience rather than correctness. Thus in a recent controversy, Milton Friedman pointed out that he could state his analysis in terms of either Keynesism or the quantity theory.<sup>5</sup> He would have preferred the latter, but since he was arguing against Keynesians he used the Keynesian apparatus instead.

Let us now apply the above conclusions to the dispute which Philbrook discussed. One of the most important difference between Keynesians and Pigouvians concerns a question of fact. Pigou assumed that if prices fall, thus increasing the real value of privately held wealth, the consumption function rises. In this way he and others have tried to revive the classical contention that a free enterprise economy with flexible prices has an automatic tendency toward full employment. Hansen, the well-known Keynesian, doubts if this effect, if it exists at all, is strong enough to matter.<sup>6</sup> If we want to choose between these two theories (if that is the right word), we need an experiment in which prices fall, other things remain equal, and we can observe the consumption function. Pigou would predict that the consumption function would rise significantly. Hansen would predict that it would rise negligibly or not at all. The experiment, if it could be performed and repeated often enough, would settle an issue that has been widely discussed in theoretical literature during the last decade. But it would only determine what assumption should be used by theory, not what theoretical apparatus is "correct."

Towards the end of his article, Philbrook said, "We might ask whether the very question of which is the correct theory is necessary. For surely the overwhelming obligation of economists today is to reach the utmost consensus on policy which their individual visions of truth permit."<sup>7</sup> The present writer feels

<sup>4</sup> The present writer, who is profoundly ignorant of the physical sciences, suspected that Philbrook had borrowed the term "critical experiment" from them and therefore consulted a physicist. The latter said that in physics the two theories to be tested by the critical experiment would include a number of hypotheses. Some hypotheses might be identical for the two theories, but at least one would have to be different if the two theories are to yield different predictions. If hypotheses are for physicists what assumptions are for economists, the parallel between our discussion in the text above and what this physicist told us is striking.

<sup>5</sup> "Comments on Monetary Policy," *The Review of Economics and Statistics*, Vol. XXXIII, No. 3 (August 1951), p. 189.

<sup>6</sup> Alvin H. Hansen, "The Pigouvian Effect," *The Journal of Political Economy*, Vol. LIX, No. 6 (December 1951), pp. 535-6. See also Lloyd A. Metzler, "Wealth, Saving, and the Rate of Interest," *ibid.*, Vol. LIX, No. 2 (April 1951), pp. 93-116.

<sup>7</sup> *Loc. cit.*, p. 26.

that the overwhelming obligation of economists is to seek truth, particularly truth that is relevant to important policy problems. If finding truth contributes to a consensus among economists, that may be well and good, but if the two objectives conflict, surely the search for truth must come first. In fact, too much consensus can be bad. Economics is not like medicine. Physicians may hope to reach a consensus on the diagnosis and cure of a certain disease, but they usually have a single well-defined goal—the health of the patient.<sup>8</sup> In economics the goals are numerous and conflicting. There are bound to be genuine differences of opinion on economic policies. Such differences arise from different value judgments and therefore cannot be resolved by science. If the people are to be properly informed, it is desirable that their different value judgments be reflected among economists. It would be as bad for all economists to have the value judgments of Robert A. Taft as for them all to have the value judgments of John L. Lewis. In either case, consensus on policy problems could be hoped for, but in either case it would be dearly bought.<sup>9</sup>

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RENDIGS FELS

*METHOD, IMPLICATIONS, AND CONSENSUS: REPLY  
TO PROFESSOR FELS*

I had supposed that Keynes, when he inveighed against a tradition holding that a free-enterprise economy with flexible prices has an automatic tendency toward full employment, was speaking of something which actually had existed; and apparently Professor Fels agrees with me after all, for he refers to efforts to revive that "classical contention." In a world in which "modern" and "revolution" are prestige words in intellectual circles, it appeared to me that my term "old-fashioned orthodoxy" might, in the eyes of critics, clothe the contention in opprobrium sufficient to render the term unobjectionable.

Two points concerning method are brought up by my critic. First, citing my faithfulness to the precept that "we must make sure it is under identical assumptions that the clashing predictions arise," he says by implication that on account of this faithfulness the fact that "the two theories yielded remarkably similar predictions" is without significance: "It is difficult to see how two theories which are logically sound could yield different predictions unless one or more of their assumptions differed." My own difficulty is in seeing how there could be *two* theories unless one or more of their assumptions differed. And, since I was dis-

<sup>8</sup> An exception occurs when in childbirth the physician can save either the mother or the baby but not both. Here the medical profession encounters the kind of problem typical in economics. They are under no compulsion to reach a consensus about whether the mother or the child should be saved but rightly let those concerned make the decision.

<sup>9</sup> In the specific context of Philbrook's article, he is to some extent free of this criticism since he has specified or implied certain goals: full employment, survival of free enterprise, avoidance of downward pressure on wages. We might very well want consensus among economists whenever such a list of goals is handed to us, provided the list is complete and the goals do not conflict. But in fact, the goals are always numerous and conflicting, and choices among policies involve choosing how much of one goal to give up for the sake of achieving more of another.

cussing two theories, perhaps most readers will have discerned this clue to reading sense rather than nonsense into my words and hence will have seen I was merely stating and respecting the proposition that ordinary principles of experiment must be observed.

The second question of method concerns what a critical experiment might prove, and appears largely in the two paragraphs beginning with the statement that the results "would not be likely to destroy either theory completely." Two thoughts, possibly three, appear in a manner which leaves it hard for me to be sure what is the total message intended. None of them contradicts anything I said—or, as far as I can see, adds anything essential—and I mention them only because the tone of the passage suggests contradiction. The order is selected for my convenience. First, the experiment would determine only which theory—or assumption—should, because it is the more nearly correct, be used. Second, it *may* be that the discussion of the Pigou effect was meant to bring out that a test of two opposing assumptions need not prove critical as between two theories respectively employing them. Third, if I appraise properly the role of the words "convenience rather than correctness" and "theoretical apparatus," Professor Fels' main point here is that the showing of which theory or assumption is better need not determine "what theoretical apparatus is 'correct'"': that is, it might remain possible to express oneself in terms which made use of the "apparatus," or language, of the theory believed to be inferior—as in rejecting the quantity theory but yet using the equation of exchange. This matter was of course not at issue in my paper.

Although not for Professor Fels' reasons, it is nevertheless true that the "remarkably similar predictions" from the two theories "should not have been surprising," for the analysis fundamental to my exercise has been available for quite a long time. Still, it is by no means without interest that, under like conditions as to monetary and wage-rate policy, results so similar to those of old-fashioned thinking follow from a theory which was said to constitute a "revolution" and which fostered a general conviction that "free enterprise cannot supply full employment," that downward-rigidity of wage rates is desirable, and that expansion of government expenditure is the natural first resort against unemployment. The lines of thought upon which rests recognition of this similarity establish that the direction of effect of policies flowing from the old-fashioned logic are not denied by Keynesian theory. It follows that if, with respect to other ends, we consider free enterprise to offer the least bad society, we need not for technical reasons use, in order to have satisfactory employment, the now popular devices which will beyond reasonable doubt destroy that system. All economists, Keynesian or not, who believe in free enterprise logically ought to join in advocating employment policies which give the fullest opportunity to devices which least threaten free enterprise, holding back for last resort those which are inimical to it. All economists of both schools, regardless of preference in systems, ought to join in making clear that clashes in end-value judgments, not simply disagreement on technical limitations, account largely for differences in their choices of policy. My paper was largely a plea that members of the profession

do their best to make known just how unoriginal, how unsurprising, these conclusions are.

Although the Pigou effect was used merely as the subject of an exercise in the interpretation of critical experiments, I judge that Professor Fels' justifiable intent was, in part, to raise a substantive issue, the role of the Pigou effect in the whole controversy. Little can be said here. It should be recalled, however, that unless the Pigou effect is absolutely nil, Keynesian underemployment equilibrium under the stipulated conditions falls to the ground. Policy argument could go forward over the values at stake in drastically changing price levels; but that there is, with a constant quantity of money, some set of prices which would result in full employment could not be denied. And the policy argument referred to would be irrelevant unless the "orthodox" decided we literally could not trust men with any power whatever to control the quantity of money, even under the most explicit laws. So long as this not unnatural despair is staved off, no one wishes the recipe for employment maintenance to consist of adjusting of wage rates to wild vagaries of aggregate demand. In reasonable policy discussion, the importance of acceptance of any Pigou effect at all is twofold: first, the reciprocal of agreement that a full-employment set of prices exists for any given quantity of money is the concession that for any given set of prices there is a quantity of money which will maintain them; second, to establish firmly that, with any but a mad monetary policy, wage-rate declines relieve rather than worsen unemployment, is to remove an intellectual support from the ideal of wage rigidity which, being a repudiation of market criteria, bids fair to destroy our allocational mechanism and, by inviting upward-pressingness, to render nugatory any aggregate-demand policy whatever.

The far-reaching implications of a finding that the Pigou effect is nil ought to be pondered. If marginal adjustments are not made with respect to the value of cash balances vis-a-vis expenditure, I see no reason to take for granted any of the numerous manifestations of "marginalism" which are integral, not only to the thinking of the "orthodox," but also to that of Keynes, both with respect to the relative pricing process which he assumed and with regard to his theory of employment. The common idea—reflected in Professor Fels' comments—that the conception called the Pigou effect is something new never ceases to astonish me. It is the equilibrating force in the "ancient" real balances theory of the value of money; and, in spite of the textbook verbiage on different "approaches," no theory has been offered which, without resting upon this effect, seriously faces the question of why the observed range within which the familiar oscillations of the price level took place in any period was itself not one thousand times higher or only one-thousandth as high.

My final comments, on truth-seeking and consensus-seeking, must be inadequate. I have hoped to say elsewhere more about policy selection by economists, and apparently such efforts are not uncalled for. If men revere truth above all and seek, in words of Professor Fels, "particularly truth that is relevant to important policy problems," I take it they will be seeking "the utmost consensus on policy which their individual visions of truth permit," of which I spoke, and

we shall both be satisfied. I am puzzled, however, by the notion that too much consensus can be bad, although I have often heard it. Uncritical acceptance is bad. But if the truth-seeking of individuals leads them to consensus, they can no more reject the outcome than in the opposite case they could force it. That science cannot say the last word on value judgments is true but irrelevant; if we seriously enter upon policy discussion, we must use such means as are appropriate, even though doing so should class us with that all-but-forgotten man of the academic world, the philosopher. True, "if the people are to be properly informed, it is desirable that their different value judgments be reflected among economists"—but not through special pleading. Each economist must be aware of conflicting values; and the very essence of the study of social economy is a search for mechanisms which will "correctly" adjudicate conflicts in the light of consensus upon higher values.

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CLARENCE PHILBROOK

#### *THE FUTURE OF PATTERN BARGAINING: A REJOINDER*

Professor Gerald G. Somers, in the April, 1952 issue of the *Journal*,<sup>1</sup> asserts that our conclusions, in an article published in an earlier issue,<sup>2</sup> are "open to serious question." He states:<sup>3</sup>

In a recent issue of this *Journal* Professors Backman and Gitlow conclude that "Company and/or area-wide collective bargaining are clearly critical half-way stations on the road to national multi-employer bargaining." They feel that the speed of the transition from "the atomistic to the national multi-employer plane" is significantly influenced by the degree of concentration in the industry, and, therefore, that in such industries as steel, autos, rubber and flat glass the transition is likely to be rapid. The validity of these conclusions is open to serious question.

Mr. Somers' assertion, that we concluded that national multi-employer collective bargaining is the *predetermined* collective bargaining practice of the future, is incorrect. We drew no such conclusion. As a matter of fact, we warned explicitly against the leap to this conclusion in the following statement:<sup>4</sup>

Although some labor leaders want national multi-employer bargaining, and are striving to achieve it, they face two facts. *First*, collective bargaining may be reduced in scope as well as expand. There is no line, definitely determined, of inescapable development. Examples of a reversal of trend are found in the stove industry and in the abandonment of industry-wide bargaining in the iron and steel industry around the turn of the century. Thus, the term "evolution," as applied to collective bargaining indicates merely change from simple to complex, without indicating any element of unavoidable determinism. *Second*, the evolution of collective bargaining must occur within the framework of an

<sup>1</sup> Gerald G. Somers, "The Future of Pattern Bargaining," *Southern Economic Journal*, April 1952, pp. 559-563.

<sup>2</sup> Jules Backman and A. L. Gitlow, "Evolution of National Multi-Employer Collective Bargaining," *Southern Economic Journal*, October 1951, pp. 206-218.

<sup>3</sup> *Southern Economic Journal*, April 1952, p. 559.

<sup>4</sup> *Southern Economic Journal*, October 1951, p. 208.

industry's economic characteristics. Given combinations of economic characteristics set definite limits on the degree to which collective bargaining may develop in given industries.

Mr. Somers makes a footnote reference to another study by one of the authors.<sup>5</sup> Mr. Somers' reference to that study,<sup>6</sup> failed to note this significant observation made in it:<sup>7</sup>

Although considerable emphasis is given in public discussions to national multi-employer bargaining, this type is utilized comparatively infrequently in manufacturing industries. Where multi-employer bargaining is in effect, it is on a regional or local basis in more than 95% of the manufacturing industries, whether measured in terms of establishment, employees, value added by manufacture, or wages and salaries. Even inclusive of non-manufacturing industries (e.g. coal and railroads), national multi-employer bargaining is of minor importance. *And over the years, the relative importance of national multi-employer bargaining has been declining.* (Italics added.)

National multi-employer collective bargaining has attracted much attention. We undertook to analyze *how* it developed. We did not prove or conclude that it *must* develop.

Mr. Somers also came to another conclusion. He stated:<sup>8</sup>

. . . There has been growing contract uniformity in the industries under discussion via a process of wage leadership and pattern bargaining. The results have often approximated those to be expected under a multi-employer agreement. Rather than serve as a logical half-way station on the road to nation-wide negotiations, pattern bargaining may well constitute a relatively durable alternative *modus operandi*.

There is no disagreement on this point. We stated in our original article:<sup>9</sup>

One of the most widely used types of bargaining is pattern bargaining. This type has become of major importance since the organization of the C.I.O. Under pattern bargaining, a company-wide agreement is reached with one of the large companies and then that same settlement is pressed upon the other companies in the industry. . . . In many of these company-wide-industry pattern bargaining cases, the effects of national multi-employer bargaining have been achieved without the formal use of that mechanism.

Couple these statements with our explicit warning against concluding that there is *determinism* in the development of collective bargaining, and we find there is no disagreement between Mr. Somers and ourselves.

Mr. Somers' references to the limitations of industry-wide bargaining in rubber and flat glass do not add anything to our article. We noted those same qualifications as well as the conclusion in the latter instance that industry-wide results

<sup>5</sup> *Southern Economic Journal*, April 1952, p. 559, footnote 2.

<sup>6</sup> Jules Backman, *Multi-Employer Bargaining*, New York University Institute of Labor Relations and Social Security, New York, 1951.

<sup>7</sup> *Ibid.*, p. 50.

<sup>8</sup> *Southern Economic Journal*, April 1952, p. 561.

<sup>9</sup> *Southern Economic Journal*, October 1951, pp. 213-214.

were achieved through the combination of company-wide bargaining by the major units and wage pattern following by the others (see pages 210 and 211).

Finally, it should be noted that one of the authors acted as economic advisor to the steel industry in the 1944, 1949, and 1952 national wage cases. Accordingly, we were fully aware of that industry's attitude toward industry-wide bargaining. Our reference to "rapid" evolution referred specifically to the shift from plant to company-wide bargaining, not to the further change to industry-wide bargaining (see p. 218).

*New York University*

JULES BACKMAN AND A. L. GITLOW

## BOOK REVIEWS

*This Unsuccessful Age.* By Walter Eucken. New York: Oxford University Press, 1952. Pp. 96. \$2.00.

Walter Eucken is an eminent German liberal economist who survived the ordeal of National Socialism. In this trenchant essay he tackles the problem which has been confronting statesmen and economists since the Industrial Revolution: "How can modern industrialized economy and society be organized in a humane and efficient way?" More specifically, the problem is one of how to provide full employment without thereby producing dangerous inflation and, as a result, inevitably bringing into existence centralized state control in the effort to check or control inflation. According to Eucken, the chain of events in recent economic history has been: full employment, repressed inflation, and a centrally controlled economy. Full employment is desirable, but to gain it through inflation and a centralized bureaucracy is to purchase it at a fatal price.

Professor Eucken seemingly does not regard Communist or Fascist theories and practices as worthy of serious refutation or rebuttal. They are too destructive of personal liberties to be accorded consideration as a solution of the problem noted above. It is a matter, rather, of revamping capitalistic economics and democratic politics. We must recognize the errors and deficiencies of unlimited *laissez-faire* and yet escape the evils of the centralized planned economy which was tried and has been found inadequate from the end of the First World War to the present time. German experience since 1923 proved that freedom of contract may be so manipulated as to lead to the creation of private monopolies which may be as destructive to economic freedom as a state-planned economy.

Stressing, as he does, the importance and menace of inflation to a free society, Eucken naturally regards monetary policy as the key to a sound economy. He contends that monetary policy has been the primary item "in all economic policy during the last decades." He maintains that "only when money is adjusted to the balance mechanism of the economic process, does it become possible to attain general equilibrium by means of the price system." He cites as a warning Lenin's statement that "the destruction of bourgeois society is brought about by the devastation of its monetary system."

As a program for solving the problem set forth at the beginning of the essay, Professor Eucken offers the following general panacea:

The answer is that the state should influence the *forms* of economy, but not itself direct the economic process. Concluding trade treaties, providing for an adequate monetary system, framing laws of patent and contract—all this lies within the purview of the state. The state should also decide the general nature of the economic and political order and thus meaningfully integrate the various sectors of economic policy; but it should not take upon itself the issue of production orders regulating the day-to-day manufacture, import and export of machines, textiles, wheat or other commodities, nor should it attempt direct control of labour.

Reasonable students of economic policy will find little fault with such a statement, except that it will seem to many more like an elaborate restatement of Eucken's problem than the solution. Integration is likely to verge upon and invite central planning.

There is a brief chapter on "The Development of Economic Thought" which is a wise word of caution against concentrating upon either pure theory, historical analysis or statistical investigation. There is a long introduction by Professor Jewkes of Oxford University, which expounds Eucken's ideas, evaluates them, and supplies a measured and sympathetic critique of Keynesian economics and the economic policy of the British Labour Government.

Discerning and fair-minded readers will be likely to find little fault with Professor Eucken's ideas as applying to world economic conditions down to 1937, but today they are at least temporarily archaic and antiquated as a cogent appraisal of trends at the mid-century. War and vast armament expenditures in peacetime have now become the basis for full employment and "prosperity." This seems likely to be the case for many years to come. Under such conditions, state control of economic life is inevitable and enduring. Orthodox monetary theory, however sound in a rational and pacific age, is now irrelevant in actual governmental practice. The state can manufacture as much money as it pleases, however disastrous the ultimate result.

To combat Marx and Keynes is now all but irrelevant. One must tackle the economic picture as presented by George Orwell in *Nineteen Eighty-four*, and less terrifyingly by John T. Flynn in his *As We Go Marching*, by Lawrence Dennis in his *Dynamics of War and Revolution*, and by James Burnham in his *Managerial Revolution*. So long as "perpetual war for perpetual peace" remains the basis of public policy and the key to economic "prosperity," the civilized world will have increasing inflation and a planned economy. Foreign policy is as much the only path to a sound economy today as it is to the realization of real and permanent peace.

*Cooperstown, N.Y.*

HARRY ELMER BARNES

*The Works and Correspondence of David Ricardo.* Edited by Piero Sraffa and M. H. Dobb. Vols. III, IV, and V. New York: Cambridge University Press, 1951 and 1952. Pp. viii, 437; vi, 422; xxiv, 534. \$4.75 per volume.

In these three volumes Mr. Sraffa and Mr. Dobb continue their meticulous and fascinating presentation of Ricardo's work. The third volume relates almost entirely to the "Bullionist" controversy; the fourth is a more miscellaneous collection of essays but still with a large proportion of monetary topics; the fifth gives Ricardo's speeches in parliament—for the first time, indeed, that they have ever been collected or reprinted. It will be seen that there is much here to interest and occupy the economic reader.

This reviewer wishes that it were possible to give as detailed a review of these volumes as was given of the first two. For the new volumes are no less interesting and no less startlingly relevant to modern conditions than were the initial ones. Do not the following remarks on inflation, quoted by Ricardo from Adam

Smith (Vol. III, p. 97) sound timely? "When it becomes necessary for the state to declare itself bankrupt. . . a fair, open, and avowed bankruptcy is always the measure which is both least dishonorable to the debtor, and least hurtful to the creditor. The honor of the state is surely very poorly provided for, when, in order to cover the disgrace of real bankruptcy, it has recourse to a juggling trick of this kind, so easily seen through, and at the same time so extremely pernicious."

Time has, however, failed for a detailed digest of the new volumes. American economists everywhere, however, and especially Southern ones, will be interested to know that the present writer has recently discovered in the library of Judge Langdon Cheves, the South Carolina-born president of the Bank of the United States (1819-23) an almost complete set of the bullionist pamphlets. Ricardo's, in particular, shows heavy reading. Thus these essays of Ricardo were being attentively read within ten years of their publication by the responsible head of the American financial system. Ricardo's influence in this country appears, indeed, to have been much more direct and immediate than usually supposed.

Turning now to Volume IV, it opens with Ricardo's "Essay on Profits," followed by his "Proposals for an Economical and Secure Currency," followed by various essays including the posthumous "Plan for a National Bank." At the end Ricardian specialists will be particularly interested in a set of notes from Ricardo's manuscripts. These relate in large part to theories of value and distribution. Thus one reads the following by Ricardo in the "Notes on Blake," (Vol. IV, p. 349) "Profits and wages were both higher it seems. Was this general? If you say yes I ask how they can both be higher if the value of commodities is at all times equal to the value of wages and profits together?" Read hastily it would appear that Ricardo had here forgotten that the *total* value, in a progressive society, is constantly rising. Professor Jacob Viner, however, has written me, regarding my review of Volumes I and II, that when Ricardo says "higher" or "lower" profits he means *relatively* higher or lower. Thus the "dogmatic" statement by Ricardo, to which I referred in my earlier review, that profits depend on wages and *nothing else* is not so much dogmatism but tautology. This observation explains one of the reasons why Ricardo has to be read with so much caution. But was it not a mistake for Ricardo to impute his own peculiar terminology to others? In common-sense language wages and profits can certainly both rise together.

Economists will of course be particularly interested in the speeches collected here in Volume IV for the first time. The following side remark from the introduction (p. xx) will also be of interest—"shortly before his death Ricardo had promised his friend Joseph Hume that he would assist him in his proposed motion against the laws restricting the emigration of artizans, the exportation of machinery, and the *combination of workmen*" (italics mine). But the very first page of the speeches finds Ricardo at his grimmest: "Mr. Ricardo. . . thought that if a provision were made for all the children of the poor it would only increase the evil; for if parents felt assured that an asylum would be provided for their children, in which they would be treated with humanity and tenderness,

there would then be no check to that increase of population which was so apt to take place among the laboring classes." Yet always there is a contrast between one side of Ricardo and the other. He speaks against public works in depression (p. 32) on the ground "the capital thus employed must be withdrawn from some other quarter" and yet at the same time supports the motion for a committee to study some of Robert Owen's notions on the ground that it is always helpful to get the "facts."

These three volumes, in fact, impress me still more with the schizoid nature of Ricardo's thinking. Ricardo the humane, tolerant individual is always at war on matters of public policy with Ricardo the iron dogmatist. But still more important, Ricardo the equilibrium theorist is perpetually at odds with Ricardo the analyst of dynamic growth. May we not hope some day to develop a theoretical synthesis of static and dynamic theory capable of standing on its own? Such a synthesis I believe would also help to bring together Ricardo the humanitarian with Ricardo the dogmatist. It is in the speeches, particularly, that the perpetual scrambling of static and dynamic equilibrium, and of short and long periods, is most clearly marked. And most of the "grim" conclusions stem from the equilibrium theory.

*University of Virginia*

DAVID McCORD WRIGHT

*International Economics.* By Jacob Viner. Glencoe, Ill.: The Free Press, 1951.  
Pp. 381. \$5.00.

With respect to Professor Viner, once a student, always a student of his work. The myriad who have had the benefit of his vigorous intellectual-knuckle rapping—whether through sitting under him or through study of his writings—will always feel safer in their conclusions if they can discover that they agree with him and, if they disagree, will feel acutely the need of canvassing most carefully the reason. All these will be glad to see this collection of twenty-five Viner essays on international affairs.

The essays are presented in the order of their original publication dates, which range from 1924 to 1949. The majority appeared in 1943 or later. The title may perhaps be regarded as misleading in that the essays do not, even as nearly as such a collection might, add up to a treatise on what has probably come to be expected under the name of international economics. Readers of the monumental *Studies in the Theory of International Trade*, of 1937, would scarcely expect another treatise. A number of the selections, to be sure, are concerned with the development or appraisal of tools of analysis—at least "The Theory of International Values" (1926), "Mihail Manoilescu, The Theory of Protection and International Trade" (1932), "National Monopolies of Raw Materials" (1932), and "Professor Taussig's Contribution to the Theory of International Trade" (1936). In a pithy introduction the author rounds out to some degree the picture of his present theoretical position, with special reference to aspects of his thought which are not clearly indicated in the essays but upon which readers might well feel entitled to be enlightened. Most of the book, however, consists of studies in policy.

This is particularly true of the later studies. During the war and afterward Professor Viner was addressing himself to those problems of international organization which engaged the pressing interest of most of the thoughtful citizenry, and characteristically was selecting some of the knottiest. This phase is represented by essays on such subjects as international relations between state-controlled national economies, peace as an economic problem, the atomic bomb and international relations, conflicts of principle in drafting a trade charter and economic foundations of international organization. These are studies in political economy according to a fine tradition.

In regard to form and sheer display of virtuosity, they are to this reviewer delightful. That an economist will actually make use of his tools and not be manipulated by them should no doubt be taken for granted; but perhaps not without meaning about the facts of life is the observation that at least one reader could feel refreshed by Professor Viner's notable example. The literary style fairly often suggests that the writer has somehow missed the modern categorical imperative to write so that he who gallops may read. Some of us will take comfort in the belief that he who insists on galloping, and he who writes only what the galloper can read, will normally fail to say or understand many of the things most needing to be said and understood. A master of nuance of thought, and of that art of qualifying phrase which is indispensable to its exposition, the author never cancels himself out, yet consistently avoids a danger which dogs the proponent of less-than-popular positions: namely, in the effort toward forceful statement committing himself to unintended grounds and conclusions. The work abounds in pungent exposition of ideas which might well, in view of their inherent difficulty, make for a labored and ineffectual presentation. Even where the thought is one of extreme familiarity it is usually freshened by the form in which it is cast.

As to substance, only the sketchiest hints can be given. For the most part the author is making applications to be expected of any nineteenth-century-liberal, Marshallian economist. But he is doing more than that. Of the features which stand out, one of the foremost consists of the numerous manifestations of Professor Viner's remarkable talent for dealing in full awareness of the exigencies of the day, while yet not losing sight of long-run considerations. This talent eminently qualifies him for a role which apparently he has in fact played to a significant degree—although no doubt far less than to his satisfaction—that of speaking to men who directly influence policy, in a manner such as to gain their attention to something beyond the shortest run. In the choice of policy, he makes concessions to short-run and not-so-short run limitations, both technical and political. Far from a mere carping critic, he canvasses eagerly the possibilities inherent in any institution which has at least some life capable of being nurtured—as witness his sympathetic treatment of the various international organizations.

In this display of respect for both the short run and the long, the essays are probably as near to being models as we are likely often to get. However, if one must be critical, it is right here that this reviewer would look to account for the aspects of the work which leave him least satisfied. Probably most critics

will believe Professor Viner overemphasizes the long view. The reviewer feels forced to the opposite conclusion. Indeed, it is a source of recurring discomfort that he cannot accept the degree of "management by authority," largely in the monetary field in a broad sense, which Professor Viner finds desirable or in any case the best compromise to be hoped for. Such remains the case in spite of the author's numerous slaps on the wrist for enthusiastic managers of economies (for example, page 377, which should be read by all). Acceptance of authorities presumably stems from a conviction that certain automatic adjustments to change cannot be caused to come about with sufficient speed to avoid undue hardship (plus of course a conviction, about which the author appears at times to be dubious, that the actions of authorities will not themselves create intolerable political wrangles). Although understandable, to this reader recommendations so based seem an inferior substitute for hewing to the line so generally followed by Professor Viner—that is, making clear the nature of adjustments in an economic mechanism having reasonable assurance of viability, and supposing that sane men will overcome their reluctance to make them.

This and such other dissents as might seem called for cannot, however, dull the reviewer's enthusiasm for a widespread hearing of the voice of Viner, or for its direction of effect upon the climate of opinion that would prevail in its absence. The things it says are conceived in that spirit of universal benevolence which, at least verbally, is so generally accepted today. But toward the popular latter-day ideas of technical economic possibilities, limitations, and analysis—notably notions of the revolutionary merits of the Keynesian message to international economics—the voice is that of an old-fashioned neo-classical economist, scientifically humble, but as yet unashamedly unregenerate. And the note of constructive skepticism sounded at the end of the book ought to be heard 'round the world until it is properly answered:

World government is not to be taken seriously as a possible answer to important problems in the economic field until some advocate of world government comes along with at least a plausible sketch of how it would proceed to solve any one of the urgent problems of the day in the international economic field: the problem, say, of trade barriers, or of frozen and pegged currencies, or of dollar scarcity, or of the hunger for capital in undeveloped countries. Dreams often serve the valuable purpose of elevating our goals. But dreams also "lift up fools" to levels where the possible ceases to be acceptable.

*University of North Carolina*

CLARENCE PHILBROOK

*A Study in the Theory of Inflation.* By Bent Hansen. New York: Rinehart & Co., 1952. Pp. xiii, 262. \$4.00.

In this book Bent Hansen of Sweden (who should not be confused with Alvin Hansen of the U.S.A.) has done work significant for those who are interested in monetary theory or who are doing research of any kind on inflation. The repressed inflations of World War II, which hitherto have been investigated on an empirical or descriptive plane, inspired Bent Hansen to develop a theoretical model for inflations held in check by price and/or wage control. The model,

however, turns out to be extremely general. In the latter part of the book, the author first shows how it can be applied to open inflations, then generalizes it so that the static equilibrium of the Walrasian system becomes a special case. Nevertheless, the study does not pretend to give a full blown theory of inflation: it pays little attention to dynamic process analysis, the interest rate, central bank policy, and expectations. The model distinguishes carefully between factor and commodity markets. In fact, Bent Hansen's definition of inflation (or, as he calls it, "monetary pressure of inflation") is that "there is monetary excess demand in either the composite commodity market or the composite factor market, or in both these composite markets, so long as neither of them exhibits monetary excess supply" (p. 6). As in most theoretical work, the analysis is based on severely restrictive assumptions. For instance, Bent Hansen analyzes universal perfect competition and universal monopolism in commodity markets but does not analyze a mixture of the two. Equally at home in the Anglo-Saxon and the Scandinavian literature, the author appears to belong to no particular "school" though he calls his analysis Wicksellian. Much of the analysis is diagrammatic. My nodding acquaintance with calculus sufficed for most of the mathematical passages, although a few sections were beyond me. So far as I could judge, the author has a high degree of technical skill.

Bent Hansen reaches a number of interesting conclusions. He shows that the Swedish concepts of planned saving and planned investment are not useful for analyzing inflation since it is possible for inflationary pressure to exist even though planned saving exceeds planned investment (pp. 76 and 100-101). Under perfect competition (and with certain other assumptions), closing the inflationary gap in commodity markets leaves the gap in factor markets unchanged (p. 116). "If the pressure of inflation is to be removed merely by decreasing the demand for commodities, this demand must decrease by an amount larger than the existing inflationary gap in the commodity markets, actually by so much more that the price is forced down so far in relation to the wage-rate that the excess demand for labour-services also disappears." (P. 179.) This contradicts conclusions "based on more crude Keynesian models . . . that to do away with inflation a lowering of real wages and increase of profits is necessary, because wage-earners have a higher consumption-ratio than the profit-earners." (*Ibid.*) To step out of the inflationary context for a moment, equilibrium can be maintained in the face of a rise in productivity without changing prices, wages, or real consumption of the government if indirect taxes are increased and direct taxes decreased (p. 243).

With direct controls, universal monopolism, and equilibrium in both commodity markets and factor markets, abandonment of direct controls may result in an inflationary process (p. 123). This is because price control makes part of the monopolist's marginal revenue curve a straight horizontal line. A policy of controlled wages and uncontrolled prices may not close nor even diminish the inflationary gap in commodity markets through rising prices; in fact, it may be necessary to lower prices to close the gap (p. 134). Under perfect competition and repressed inflation, a *decline* in productivity is found to be a favorable

factor for combatting inflation, and it is probably better not to compensate for the decline in productivity by permitting higher prices (p. 149). The same may or may not be true under monopolism (pp. 152-158). Under certain assumptions, an open inflation reaches a quasi-equilibrium "in the sense that the price-wage ratio, excess demand for commodities and labour-services, and along with them the speeds of the rise in the price and the wage-rate are constant." (P. 166.) Moreover, the quasi-equilibrium is stable.

Vanderbilt University

RENDIGS FELS

*A. E. A. Readings in Price Theory.* Edited by Kenneth E. Boulding and George J. Stigler. Vol. VI. Homewood, Ill.: Richard D. Irwin, 1952. Pp. x, 568. \$5.00.

With this volume the American Economic Association's series of readings extends into the literature of micro-economic theory. The editors have excluded articles on welfare economics as worthy of a separate volume; they have chosen material not readily available elsewhere on utility and demand, costs and returns, the role of stocks in price theory, the theory of the firm, imperfect competition, spatial competition, and the theory of games.

Twenty-five packed articles such as these are not easily summarized in a short review; the remarks which follow will be rather general. It should be stated first that this volume is one for the professional economists and for graduate students. Those not already versed in theory will find many of the articles completely mystifying. Most of the writers represented are pioneering in the marginal areas of economic thought and assume that the central ideas of neo-classical theory are already familiar to the reader.

There is some material, it is true, which will prove of value to the general student of economics. The entertaining controversy between Clapham and Pigou on "empty economic boxes" cannot be surpassed as an introduction to and critique of the method of economic analysis. Viner's well-known piece on cost curves should present few difficulties to those familiar with textbook diagrams. The articles on imperfect competition by Hicks, Sweezy, Stigler, and Rothschild cover matters of interest to those who disdain minute refinement of seemingly irrelevant issues. And Wicksteed's brilliant article on method should receive much wider attention; though written in 1914, it is amazingly "modern" in defining the relation between ethics and marginal economic analysis and in description of the demand curve.

Three articles do an excellent job of summarizing recent developments for those who cannot devote time to more extended discussions. The article by Rothschild covers a great volume of oligopoly literature in a stimulating way and at the same time relates this literature to subject matter normally outside the scope of economics. Leonid Hurwicz's summary of the Neumann-Morgenstern "Theory of Games and Economic Behavior" fills a need for those with a limited background in mathematics. Boulding's article entitled "A Liquidity Preference Theory of Market Prices" gives an insight into ideas which have been more fully developed in his "Reconstruction of Economics."

The longest series of articles is concerned largely with the issue of the relation

of increasing and decreasing returns to the social optimum: Pigou, Robertson, Knight, Sraffa, Mrs. Robinson, Howard Ellis, and William Fellner contribute to the controversy. Some readers will find this the most valuable part of the volume, which no doubt is more complete on this question than any other source; others will find the details of the debate too specialized for their more general interests.

Two articles, by E. J. Working and by Hans Staehle, are concerned with the statistical measurement of theoretical concepts. They should both be read by anyone interested in relating analysis to empirical data, for both contain important warnings on the dangers and limitations of such studies.

One's evaluation of the articles is likely to depend on his own background and interests. The reviewer finds the Friedman and Savage essay on "The Utility Analysis of Choices Involving Risk" especially stimulating because of his interest in consumer behavior; he finds the Makower and Marschak "Assets, Prices and Monetary Theory" less interesting, largely because of the unfamiliar terminology and method which are not spelled out by the authors; and the Slutsky article on consumer budgets is for those with a firmer mathematical training. In short, there is sufficient variety in the volume to cut across the interests and shortcomings of most advanced readers.

*University of Kentucky*

W. W. HAYNES

*Economic Stabilization: Objectives, Rules, and Mechanisms.* By Walter P. Egle. Princeton, N. J.: Princeton University Press, 1952. Pp. xii, 264. \$4.00.

The central theme of *Economic Stabilization* is that the most promising avenue to the attainment of a state of ultimately self-sustaining economic stability is through the subjection of governmental stabilizing activities to a clearly-defined and binding objective. The author, Walter P. Egle of the University of Cincinnati, proposes that a binding floor and ceiling for economic fluctuations be adopted for a specified period by legislative action. According to his proposal, the cyclical limits would be stated precisely in terms of an index (or indexes) of total economic activity and would be spaced far enough apart to provide for a liberal margin of tolerable fluctuations. In order to insure the successful defense of the established limits, he advocates granting the stabilizing authorities broad discretionary powers covering the selection and use of appropriate compensatory measures. However, ultimate self-enforcement of the norm is an important feature of the plan. Professor Egle believes that the decisions of individuals and firms will in time become strongly conditioned by the confident expectation that cyclical fluctuations will not be permitted to exceed the prescribed limits. When this state of mind becomes widely prevalent, individual actions will be conducive to maintenance of stability, and the plan will be virtually self-enforcing.

The idea of achieving a state of self-sustaining balance through ultimately self-enforcing governmental commitments is not novel, having been conceived some years ago by Henry C. Simons. There are, however, some significant differences between the ideas of Professors Simons and Egle on this subject. Broadly speaking, the Simons proposal would have entrusted cyclical control to a bind-

ing stable-money rule, open-market operations on the part of the Treasury, and a system of countercyclically varying levels of exemption of the federal income tax. Professor Egle places no such definite limitations on the means of stabilization. Instead, he favors a rather broad grant of discretionary powers to the stabilizing authorities. It is his opinion that relatively powerful compensatory machinery will be required to defend the established limits during the period immediately following the adoption of the plan.

Not all readers of *Economic Stabilization* will agree with the generally optimistic views of its author concerning the usefulness and workability of this plan to confine cyclical swings within fixed limits. The plan appears to be vulnerable to criticism in a number of respects. In the first place, some economists will undoubtedly view with alarm the undetermined and possibly harmful effects which a program of this type may have on long-range economic growth. Others may feel that the plan does not provide adequately for the maintenance of optimal relationships among the components of the various national aggregates, which is scarcely less important than the attainment of over-all stability. Again, criticism may be directed at the indexes in terms of which the binding limits would be expressed. Professor Egle recommends fixing the ceiling in terms of an index of the general price level, while the floor would be expressed in terms of an index of total employment. However, no adequate measure of the general price level is available at present, and a disturbing lack of uniformity has been exhibited in the past by the indexes which measure changes in particular groups of prices. Also, the definition of ceiling and floor in terms of separate indexes, the movements of which would not be closely correlated, could easily lead to confusion. Finally, many economists may question the important assumption that eventual self-enforcement of the plan can be expected.

It is probable that many readers of *Economic Stabilization* will retain important reservations with regard to the feasibility of the stabilization scheme about which the study centers. Nevertheless, most readers will find the book an interesting and very readable brief treatment of the knotty problems involved in countercyclical activity. *Economic Stabilization* can be read profitably by any person interested in this important problem.

*West Virginia University*

JAMES H. THOMPSON

*The Industrial Economy.* By C. E. Ayres. Boston: Houghton Mifflin Co., 1952. Pp. x, 433. \$4.00.

Perhaps the greatest contribution of this new book will prove to be the attempt of the author to counteract the growing polarization of economic thought into a conflict between capitalistic free enterprise and communism. Although this is by no means the main theme of the book, still the idea remains in the mind of the reader throughout the course of its 433 pages. It is implied that many people, being dominated by a fear psychology, consider that any deviation from classical theory, any criticism of the present capitalistic system will be termed a radical and heretical step toward socialism and communism. Such an attitude, Dr. Ayres states in the preface, ". . . could result in the stifling of

all efforts to recognize and correct the errors of our own traditional way of thinking and our own American way of life."

In the plan of the book, Dr. Ayres first attacks the assumptions and thus the validity of the conclusions of classical economics, but he gives reasons why classical theory persists ". . . in the face of scientific developments which are directly contrary to its basic assumptions." Here he asks if the investigations of economists into price relationships are ". . . the principles of economics in the sense of providing the basic tools for understanding how the industrial economy came to be what it is and how it operates?" His answer is in the negative. A static analysis is of no service in studying a dynamic economy. The basic problem of economics is one of institutional adjustment to technological change. Thus the institutionalist approach is presented in an attempt to show why the economy is what it is and how it evolved from the past.

All institutions and all technology grow and evolve from past institutions and past technology. On a base of essentially static institutions, the economy has evolved under the impact of dynamic technology. Technological ways of thinking eventually ". . . intrude upon regions which were predominately institutional before." It is particularly the evolution of the institution of property in response to technological requirements that has brought about our present system. In this vein Dr. Ayres presents the development of the industrial economy and its present instability.

Several chapters are devoted to a presentation of cures for the instability of the industrial economy. Since the basic difficulty is an institutionally determined inequality of income which cannot be changed and which results in a shortage of mass purchasing power, a plethora of savings and a shortage of investment opportunity, the basic solution is to implement technical devices ". . . adequate to the solution of the technical problems of the age." Dr. Ayres recommends a modification of the income mechanism so that mass purchasing power can keep more in line with the capacity to produce and to reduce at the same time the discrepancy between saving and investment. The devices suggested for implementation of this program are the progressive income tax in conjunction with an idea of a guaranteed minimum "independent income" under a social security plan. He also suggests deficit finance and public work but considers them merely alleviative and not striking at the basic difficulty which is a shortage of mass purchasing power with which to buy the products of the technologically advanced mass production system.

Finally there is a more specific attack on value theory. The attempt here is to show that the market mechanism does not guide and bring order to the economy but merely reflects such order as is present in the economy. Yet he admits that the individual businessman is guided by the market mechanism. Proceeding from this last argument which consumes two chapters, it is only one step to the conclusion that the problem of bigness in business cannot be considered on classical grounds of competitive and self-equilibrative forces. Changed technological conditions make such an analysis unsuitable as a basis for a guide to a sound economy.

Dr. Ayres has written this book primarily for students. The reviewer considers that portion of the book in which the author discusses in general post-Keynesian form, but in simplified and non-technical language, the ills of the industrial society and the remedies therefore will be quite helpful to the undergraduate student of economic theory.

On the adverse side the reviewer is of the opinion that the content of the book presupposes that the student has, and in fact requires that he have, a working knowledge of classical theory and value theory as refined to the present day before he can grasp the subtle arguments of the book. Portions of the book dealing with the development of the concepts of saving and capital formation are somewhat less than satisfactory. Nevertheless, the book should be of interest to the student with a background in economic theory and also to the professional economist who may wish a stimulating review or criticism, as the case may be, of his own mode of thinking.

*University of South Carolina*

A. C. FLORA, JR.

*Pricing and Equilibrium: An Introduction to Static and Dynamic Analysis.* By Erich Schneider. Translated from the original German by T. W. Hutchison. New York: Macmillan Co., 1952. Pp. xii, 327. \$4.00.

The appearance of a new book from the pen of Mr. Schneider is an event in itself. When this is coupled with the fact that Mr. Hutchison's translation from the German will give the purely English reading economist his first look at Mr. Schneider's work, the event takes on added significance. In this book the author attempts to introduce the reader to the elements of price theory, considering both static and dynamic analysis, partial and general equilibrium. National income analysis is treated in dissociated parts as an outcome of price theory.

In his treatment of demand Mr. Schneider uses the indifference curve method as the means of deriving the relationship between demand, price, and income. A detailed description of demand by elasticity coefficients in relation to marginal and total revenue is given, complete with illuminating diagrams. Finally, the relation of individual to social demand is set forth to explain the derivation of the "consumption function" of national income theory.

In his discussion of the firm Mr. Schneider manages to traverse most of accepted static economic theory on the subject. His discussion begins with a general analysis of the various market situations which may be faced by the seller. There follows a case by case description of the behaviour of the firm in each case. A discussion of the firm's planning in time takes up a number of cases involving capital and interest in their relation to production.

A discussion of market equilibrium follows. With a wealth of detail the author shows how partial equilibrium is reached in various competitive and monopolistic situations. Finally, the problem of general equilibrium of exchange and production is analyzed under conditions of competition.

One wonders what to expect from a book in economic theory nowadays. Out of the intellectual ferment of the present era with its semi-socialized war economy has come a flood of new ideas. In a text which seeks to set forth funda-

mental, and therefore basically acceptable, notions the economist is faced with a confusing task of selection. Particularly difficult is the decision as to the basic economic units which perform the functions of an economic system and the motivations of these units. In selecting the household and firm as economic prime movers and attributing to them the goals of maximization of utility and profit, respectively, Mr. Schneider is probably wise. At present, these seem to be the best elementary hypotheses.

At a more advanced stage, however, one must question the adequacy of these concepts to describe the group behaviour evidenced by corporations and labor unions. Likewise, one is faced with the question of whether "fundamental" principles of economics can be derived which exclude government action. In short, can these topics be superimposed on or compressed within an intellectual framework originally constructed with different economic units and motivations in mind?

In evaluating the achievement of this book it is natural to compare it with Boulding's *Economic Analysis* and Stigler's *Theory of Price*. Generally speaking, this is a more severe work, grounded as it is in the continental intellectual discipline. Literary explanations are somewhat shorter; mathematics is occasionally introduced into the text; and the derivations in the theory of capital require more background than the comparable American texts. While the relations between different economic situations and methods of analysis are more evident, one has the feeling that the author's interest lies more in the abstract logical sphere than in the concrete economic situations under discussion. At the graduate level for students seeking a doctorate in economics this book should provide an excellent survey of the state of price theory in the larger sense. In particular, the treatment of price determination under oligopolistic and monopolistic situations is very well designed.

A large number of minor slips occur in the text, but it is only surprising that all the slips in a work of this type should be *minor*! On p. 39 equation (17) should be written  $s = e - c = e - c(p_1, \dots, p_n, e)$ . On the top of p. 82 the statement is made, in effect, that the level of variable cost increases more than proportionately to output where marginal cost rises, but this is the point where marginal cost equals average variable cost. Tables A and B on pp. 83 and 90 contain errors of rounding and otherwise. On p. 110 the first five figures in the marginal profit column are in error. The diagram on p. 109 is confusing in that the intersection at C appears to be significant in connection with the discussion in the text, but it is not. On p. 102 the profit area is incorrectly drawn in on the diagram. On p. 115 the meaningless statement is made that advertising costs increase more rapidly than (physical) sales at a certain point. On p. 136 in the second italicized statement, "first" and "second" should be interchanged. On p. 117 the equation stated there should, I suppose, be written  $P = px - C(x) - R(p, x)$ . In the footnote on p. 146 the derivative notation is deranged. On p. 152 in the sentence below equation (18) "larger" should be substituted for "smaller." On p. 168  $i$  should be substituted for 1 in the denominator of the second expression of the continued equation (8). On p. 198 in the ninth line "larger" should

be substituted for "lower." On p. 204 it appears that  $\alpha$  should appear in some way in equation (8). On p. 226, fig. 98b. "quantity" should replace "price." On p. 263 the indifference curve passing through  $s$  is not consistent with curve  $MV_1$ , since an infinitesimal change in the rate of exchange will cause  $MV_1$  to turn back on itself very sharply to a point slightly beyond  $s$ . On p. 278 the diagram  $SS'$ , it seems to me, should be concave to the wage axis instead of convex. At least this is what the use of Edgeworthian indifference curves will tend to give. On p. 296, in the last equation,  $p_a$  multiplies  $a$  at the extreme left of the equation.

*University of Alabama*

JOHN S. HENDERSON

*Federal Grants and the Business Cycle.* By James A. Maxwell. New York: National Bureau of Economic Research, 1952. Pp. 122. \$2.00.

This study will be very suggestive to an attentive reader whether a veteran or a novice in the field of federal-local fiscal relations. For both academicians and those in government service it should be helpful in achieving a better perspective of the roles which federal grants have played in the past and the roles that they could play in the future.

In the text and in numerous tables and graphs Mr. Maxwell very skillfully summarizes federal grant history and administration in relation to state and local budgets and functions.

One main branch of this study is the discussion of the factors which should be taken into account in designing a grants-in-aid public assistance program which would contribute to the achievement of national minima not only at any point in time, but also through the business cycle. The economic, political, and administrative factors are held in a nice balance. In this section Mr. Maxwell comes down on the side of establishing some set of rules as opposed to leaving wide areas of discretion in the federal administration.

The other main branch of this study is the discussion of public works in relation to the cyclical problem. This part of the book is handled with very good sense, sensitivity, and completeness.

From the very nature of this study Mr. Maxwell's book will be of greatest interest to those who tend to neglect the variation of federal tax rates (receipts) and monetary policy as economic stabilizers.

*Ottawa, Canada*

RUSSELL J. MORRISON

*Economic Systems in Action.* By Alfred R. Oxenfeldt. New York: Rinehart & Co., 1952. Pp. xiv, 175. Paper, \$1.50.

Professor Oxenfeldt has attempted to present an impartial description of the functional operation of the economic systems of the United States, the Soviet Union and the United Kingdom. While attention is focused upon economic structure, other cultural aspects have not been ignored in evaluating and comparing the three systems.

The author begins with the assumption that "pure" capitalism, socialism and communism do not exist and never will. From this starting point, the author dismisses theory and endeavors to describe the "real economies" of the three countries. An analysis of five economic functions serves as the basis for a description, comparison and evaluation of the systems. These economic functions are:

1. The production of goods which best satisfy the people.
2. The selection of efficient production methods.
3. The direction of individuals into their most productive employments.
4. The equitable distribution of income.
5. The creation of new techniques and new products.

It is acknowledged that economic efficiency is not the only test that is applicable to a cultural system. There are also questions of freedom, security, ethical codes, etc. which must be considered. These non-economic factors have received some attention in the evaluation of each economic system.

Factual information used as a basis for the descriptions and comparisons of the systems is mostly that which has been recognized and is readily available. Such authors as: Loucks and Hoot, Schwartz, Kaser, and Bergson, are frequently cited in the chapters dealing with the Soviet Union. The British Information Services bulletins, studies by Brady, by Williams, and by other writers, are the sources cited in the chapters dealing with the United Kingdom. This book is in the nature of a summary and an analysis of available material rather than an extension of the basic field of information.

From an economic point of view, the three countries have more in common than is usually assumed. Their systems are more marked by similarity than by differences. All three economies use the price mechanism. Money is an important institution in each and monetary incentives are used to stimulate worker effort and production. Most people have to work for a living in every country and there is relative freedom of occupational choice. Banks make loans, creating and destroying money and the governments collect taxes. Differences between the systems are mainly non-economic. Basic economic laws and institutions function under each system. It is the extent of interference with these basic forms that differentiates one economic system from another. A modern economic system is a mixture of government intervention, private intervention and the absence of any intervention at all. No system is completely free nor is any completely regulated. In the Soviet Union and the United Kingdom, government regulation is more intense than in the United States. Oxenfeldt contends that in "the Soviet Union and the United Kingdom, government regulation has not prevented a substantial improvement in economic conditions." It would seem that the same could be said about the United States. At the same time, it is recognized that all economic evils cannot be cured by passing a law. Yet, "If we do not take the risks involved in change . . . we can be *certain* that conditions will not be improved."

*Economic Systems in Action* is directed toward the beginner rather than the advanced specialist. It is too short to serve as a single text for a course in eco-

nomic systems. At the same time, it is a concise, thought provoking presentation of the functional operation of the economies of three important world powers.

*University of Kentucky*

JOHN T. MASTEN

*The Economic System*. By E. T. Weiler. New York: Macmillan Co., 1952. Pp. xxx, 869. \$5.75.

Since the publication, in 1936, of Keynes' *General Theory of Employment, Interest and Money*, writers of textbooks in economics have generally followed one of three possible alternatives. Some have seen fit to ignore the new developments and stay by the traditional type of treatment prevalent before 1936. Others have taken the view that traditional economic theory was antiquated and have adopted the aggregate approach, to the exclusion of traditional theory. An increasing number of writers, however, have endeavored to combine the two types of approach in one way or another. Professor Weiler has chosen to follow the last alternative and has done so with a very considerable degree of success.

He bases his analysis on the circular flow of wealth and income. On one side of the flow are households which are the purchasers of the products of industry and at the same time are the sellers of productive services, which are composed of labor services and property services. The term, productive services replaces the older term, factors of production, and the distinction between land and capital disappears. On the other side of the flow are business units that are sellers of industrial products, including non-material goods and at the same time buyers of productive services. This gives rise to two kinds of markets, the products market on the one hand and the market for productive services on the other. Within these markets, the price mechanism acts to direct production, allocate productive resources as between industries and business units and the flow of wealth and income as between households.

To reduce the economy to such a simple working model, a number of assumptions are necessary and Professor Weiler not only recognizes this fact, but is careful to state his assumptions very carefully and emphasizes that the economy so conceived is only for working model purposes. Within this simplified model, the author develops and applies price theory along traditional lines.

From price theory the writer turns to the subject of money and the mechanism of exchange. Throughout much of the remainder of the book consideration is given over to modification or removal of the original assumptions in order to bring the working model of the economy to something approaching everyday life and to attain a greater degree of reality. The original treatment is modified by the introduction of the banking system with its power to create and destroy money. The circular flow is also affected in various ways by the existence of government with its power to influence the money supply, to levy taxes, sell securities and make transfer payments. Further modifications must be made for the effects of international trade, capital formation, saving and investment, the influence of organized groups within the economy and innovations.

The subject of economic progress is also included. Under this head, the means by which growth can be measured, the historical trends, the business cycle, and

an analysis of the factors affecting growth are discussed. The distinction is made between growth and fluctuation. In explaining the business cycle, monetary influence seems to receive most emphasis, but the author points out that the nature of economic growth is such as to promote fluctuation and that innovations play an important part. Also if innovations were completely removed, growth would probably cease.

The last section is given over to public policy. The author suggests a number of possible objectives of public policy such as efficiency in the use of resources, freedom of the people to choose their rulers, freedom of choice in consumption, freedom to participate in organized groups, equity in the distribution of income, maintaining stability of the economic system and social security and international peace. The discussion of these topics is well-balanced and emphasis is placed on the fact that in many cases these objectives are in conflict with each other. If society pushes too far in one direction, other objectives will be restricted. The section on inequality of income is especially good and presents material not ordinarily found in many textbooks. The danger of drawing conclusions from statistics, without first making the proper corrections, is pointed out.

The book is both comprehensive and comprehensible. It includes a number of new features, among which is the introduction of demand and supply curves, for products and also for productive services, directly into the circular flow. The use of indifference tables and charts in place of the usual indifference curves, in illustrating substitution at the margin, will be appreciated by the student who has not had a background in mathematics.

This reviewer recognizes the fact that a review of a book very often reflects the bias and prejudice of the reviewer as much as it does the accomplishments of the author. Nevertheless, in the judgment of this reviewer, Professor Weiler has been very successful in the task of integrating the best of traditional economic doctrine and the theoretical developments of the last decade or two. If the text is used for a foundation course in economics, where the student will pursue further study of the subject, he will be provided with the tools for further analysis. Where the course is in the nature of a terminal course and the student does not carry his study along advanced lines, he will at least get a conception of the complexity of economic phenomena and of the forces at work within the economy. Such a conception will be of value in formulating his thinking upon the economic questions with which he is confronted in everyday life.

*Virginia Polytechnic Institute*

B. O. MILLER

*Economics: An Introductory Analysis of the Level, Composition, and Distribution of Economic Income.* By Bruce W. Knight and L. Gregory Hines. New York: Alfred A. Knopf, 1952. Pp. xx, 917. \$5.75.

It seems to me that there is a critical need for a good introductory text for that "most abstract of the introductory courses"—economics. This need is mentioned as being of most concern, by the authors of this excellent book, and one which comes nearer to fulfilling their objective of providing a complete, interesting and enlightening presentation of this difficult subject than anything that I

have yet read. This is truly an understandable and readable text, and one that leads the novitiate into the mysteries of economic theory and principles in a most pleasant and satisfying manner.

From beginning to end, the sympathetic, carefully explanatory and easy-flowing style is followed, with the result that the student feels that the material is something that is not above his comprehension, and, consequently, the interest of the student should be maintained throughout, to the distinct advantage of the teacher of beginning college economics. After reading this publication many more students should learn to understand economic principles and forces, and, with a clearer idea of the subject and a greater concept of its value, it is my opinion that the study of the important field of economics in the undergraduate and graduate fields will gain considerably in numbers and enthusiasm, due to the lucid and stimulating style of the authors.

Certainly this field needs more followers, and learners who have started with a better introduction than is afforded by reading many of the texts which are offered as "elementary" and "introductory," many of which are too technical statistical, or theoretical to induce the initiate to pursue the subject any further than absolutely necessary, on account of academic requirements, or other compulsory measures. Such an inviting and illuminating exposition as the one under review has already proved well worth the writing, and, especially in my own experience, well worth the reading, on account of its contribution to the invitation to, and interest in, economics, on the part of the American college student body.

This book does not have to be read all the way through to be appreciated. The opening illustration of the operation of the forces which determine prices and value in a simple prisoner-of-war economy is sufficient to demonstrate the simplicity of exposition and practicality of explanation which attracts the reader to read on through the entire work. It never becomes dull, and only in places does it seem a little short of completely satisfying explanation. This, in itself, is to me no less than miraculous, for very few writings in economics, even those created for neophytes, are completely clear and understandable at all times. This book, however, is uniformly clear in all topics with which it deals.

The breadth of the treatment and the thoroughness of the scope may be best observed by scanning the Table of Contents, which is highly enough regarded by the publishers to be printed in full on the back of the flap of the back cover, and usually included in the full-page advertising spreads that may be seen in the current economic journals and educational periodicals. All important topics of the subject of economics are grouped under the eight main divisions: "introduction," "framework of the economy," "national income as a whole," "individual outputs and prices," "functional distribution," "selected problems," "international economics," and "socialism and war economics." A listing of the individual chapter headings will convey a better impression of the coverage and organization of the material, and quicker, than any other device.

Basic Problems, Basic Concepts, Specialization, Forms of Organization, and Capitalism and Government comprise the chapters in the conventional "Introduction," clear and concise, with the necessary definitions amply provided.

Under "Framework of the Economy," the second section includes Labor, Capital, Entrepreneurship of the Firm, Risk of Entrepreneurship, Money and Credit, Banking and the Federal Reserve System. This stage, which is often dry and dull, is remarkable for its success in maintaining reader interest and understanding.

"National Income as a Whole" is the body of the third section, and this complicated topic is well simplified under the captions of National Output and Income; Trade, Employment, and Income; Price Levels; Depressions and Business Cycles; Fiscal Policy; and Economic Stabilization.

The fourth section deals with Diminishing Returns; Demand; Supply; Market Prices; Competitive Normal Prices, and Monopolistic Normal Prices (I) and (II). The fifth section covers Wages (I) and (II); Rents; Interest; and Profits after the classical manner.

"Selected Problems" next bring in Natural Monopolies (I) and (II); Trusts; Agriculture; Economic Security; Economic Inequality; and Government Finance.

A section on "International Economics" is divided into Foreign Exchange; Commercial Policy; Finance; Cartels and Commodity Agreements.

And the concluding section offers Democratic Socialism in England; Autocratic Socialism in Russia; Wartime Price Ceilings in the United States; and a final chapter on Economics and War.

The treatment of each of these chapter topics is sound, safe, conventional, and complete, with generous inclusion of all the important definitions, theories, principles, and concepts necessary for a working knowledge of economics and an understanding of terms, expressions, and phrases used in popular and also in more advanced discussions. Footnotes are absent, which makes the textbook more attractive and more apparently readable. References are also omitted, without any detriment, in my opinion, since publications are readily available with copious lists of references and readings. Each chapter is followed by a "Summary" which is one of the valuable features, excellently summing up the important ideas expressed in the previous chapter, to the teacher and student alike. Also, the addition of several well-chosen questions for discussion at the end of each chapter increases the usefulness of the book for stimulating discussion in class, and drawing attention to the important considerations covered periodically, for the better review of the context and stimulation of thinking on the part of the student.

As an analysis of elementary economics, this text is not so comprehensive and orthodox as Kieckhofer, yet more readable and more interesting; not so advanced nor involved as Ise; not so difficult and technical as Samuelson; not so statistical and obscure as Taylor and Barger. In fact, as far as I am concerned, it combines all the pertinent information of the other survey analyses, and makes it more simple, more readable, and more convincing. And yet nothing of consequence is overlooked. For example, the section on National Income is particularly enlightening. With a firm, sound, middle-of-the-road course, the approach is one of combination and balance of the "Institutional," "Keynesian," "National Income," and "Neo-Classical."

Since the text in its entirety is too long to be covered completely in a one-

semester course in "Principles," the authors suggest chapters to be included in the one-semester presentation. However, logical as this may be, it seems to me that a split of the work halfway would be better, as the continuity would then be better preserved, and the unity of each semester course be better maintained. By following this suggested half-way division, all the basic principles would have been introduced, and all the definitions and primary forces would have been explained satisfactorily in the first semester. Then the student in the second semester would encounter the functional distribution of income; selected problems of monopoly, agriculture, economic insecurity and inequality, and government finance; foreign exchange and international trade; socialism, price control, and the economic consequences of war.

The authors believe that—in a text, as in advertising—better teaching and understanding results from repetition of important points, with a progressively advanced treatment exhibited at each successive stage of the presentation of the theorem. Granted that there is certain merit in this plan, and the practice of the authors well bears out the value of their theory, at the same time, it must be admitted that brevity and conciseness of expression is sacrificed. Perhaps in an introductory text it may be better to give a slightly padded figure of the body, and leave it to the instructor to elaborate and explain more fully some of the most important points.

Nevertheless, one must admit that the style followed is well executed, and many students and instructors as well, will be grateful to the authors for their careful and clear writing.

In spite of the formidable bulk, the appearance of the volume and makeup of the cover is colorful, attractive, and inviting. It provides skillfully one of the essential elements of a beginning text, that of providing an interesting introduction to the subject. Readability and interest is maintained all the way through, faithfully and dependably. A few expositions could have been more simply presented, but not without slighting the importance of the subject, so the more comprehensive method seems preferable, at times, as was so conscientiously and successfully demonstrated in this admirable achievement, which is the consummation of many years of study and teaching experience.

*Stetson University*

WILLIAM BREWSTER, JR.

*Economics of Business Enterprise.* By Leonard A. Doyle. New York: McGraw-Hill Book Co., 1952. Pp. xiii, 343. \$5.00.

Professor Doyle states as the aim of his text "to provide for juniors, seniors, and graduate students in business administration a presentation of economic analysis in terms of techniques which are or can be used to advantage in actual business." He has attempted to utilize accounting terminology and tools used in other business courses to illustrate economic analysis and concepts in value theory. An adequate text for this particular purpose and making use of these devices is badly needed. Despite the fact that Professor Doyle only partially succeeds in meeting the need, his book will probably be widely used. It will prove quite valuable to the economic theory teacher as a supplementary text

for the material in Chapter Three on the total revenue-total cost approach of the break-even graph and in Chapter Nine on the relationship of cost accounting data to the problems of pricing and determination of variable costs.

Perhaps the greatest weakness of the book as a basic text is its limited approach to the contribution economic theory can make in the management of business enterprise. Surely it is also important that the businessman understand the forces that determine the level of economic activity if he is to make intelligent decisions on such problems as inventory management or price policy, and yet there is no real treatment of business cycle theory or national income analysis. Only one chapter is devoted to distribution and this deals solely with labor-management relations; interest and rent theory are not discussed. Professor Doyle recognizes in the preface that his treatment deals almost exclusively with cost, price, and output decisions, but expresses the expectation that the omitted subject matter will be handled in related courses. Perhaps the assumption is a valid one in Stanford, but in many schools of commerce very few students majoring in accounting, marketing, or management will take more than one course in economic theory at the senior level. Another significant shortcoming of the text is its excessive concentration upon institutional aspects of the problems rather than upon the theory; the experience of this reviewer has been that most business administration students have a relatively adequate understanding of the factual and institutional background, but that they do not have the grasp of theoretical concepts which will enable them to analyze properly the facts they have worked to accumulate. The strength of the book is that it does make a conscious effort to tie this factual material to the concepts of economic theory rather than to treat economic theory as a thing apart from the study of business management.

The high point of the text is reached in Chapter Nine which deals with "marginal analysis and practical business operation." This material should be particularly valuable to economists in understanding the nature of the information provided by cost accountants which constitutes the basis for many decisions of management. Unfortunately, it will be less useful in showing accountants the nature of economic theory or the contributions which it can make to business management. For example, the reasons for the blurring by accountants of the distinction between fixed costs and variable costs which plays so vital a part in economic theory are explained in a way that should make economists somewhat more sympathetic with accounting practices. But the accountant is less adequately warned regarding the damage done to intelligent management by assuming away the changes in variable unit cost through standards based on either average or practical capacity. This weakness is magnified by the utilization in the remainder of the chapter of break-even charts with the total cost line based upon a constant unit variable cost regardless of output levels. In some chapters the author does make a slight concession to the theoretical concept of diminishing returns by giving his cost line an upward curve at the very end, but in Chapter Nine not even this allowance is made.

Among the better chapters of the book are the ones dealing with pricing prob-

lems of multiproduct firms, price leadership, basing point systems, and price discrimination. The utilization of a business viewpoint at times adds freshness to the treatment. In Chapter Six the attempt to associate the retail markup practice to traditional cost and revenue concepts is admirable, but the utilization of a graph which combines a curve of total cost as a percentage of merchandise cost with average and marginal revenue also expressed as percentages does not appear likely to increase the students' understanding of imperfections in retail competition. There can be little doubt that variations in the customary monopoly graphs should be welcomed; we all tend to draw them as Chamberlain did twenty years ago; but the departures in this chapter are not likely to prove useful. In this same chapter the extreme simplification which treats merchandise as the only variable cost provides a useful starting point, but it is never altered sufficiently to make the illustration even approach actual conditions of business operations. In the latter part of the chapter the author reverts to the more traditional graphs, but the attempt to demonstrate that monopolistic competition does not, as indicated by such graphs, result in chronic underutilization of capacity in the "sort of dynamic economy in which we actually live" seems to depend upon an odd sort of cycle in which the "feast" (prosperity?) depends upon "population and income growth" while "famine" (depression?) comes "when the new firms capture enough of the market from the old to bring the volume below the break-even level." Such a superficial view of business fluctuations is even more unfortunate since there is at no later point any attempt to indicate the real complexities of the problem.

Anyone examining this text for adoption purposes or assigning it for study would be well advised to omit the first two chapters. In the first chapter the attempt to explain the complexities of our economy by an extremely artificial court room scene is a rather childish approach for a text aimed at the senior-graduate level. In the next chapter the elementary treatment of the legal forms of business organization and of accounting concepts should be unnecessary for the advanced student in business administration.

Professor Doyle is to be complimented that he has made the attempt to synthesize the approaches of economic theory and of business administration toward their common problems. While some parts of his book are worthwhile contributions, as a whole it is not likely that many teachers will find it a completely satisfactory text. But then many texts are used which are not perfectly satisfactory.

*University of Alabama*

R. M. HAVENS

*The Economic Process: Its Principles and Problems.* By Raymond T. Bye and William W. Hewett. New York: Appleton-Century-Crofts, 1952. Pp. xiii, 1050. \$5.50.

This book is meant to provide the reading material for an introductory economics course. Bye's *Principles of Economics* and Bye and Hewitt's *Applied Economics*, written several years ago, provided material for two courses, one a foundation course, and the other a course designed to apply the principles to

problems of policy. Feeling that there were certain disadvantages to postponing the discussion of principles application, Bye and Hewitt began the preparation of the book under discussion, setting up as their goal the combination of the problems of policy with the exposition of theory.

An effort has been made to deal with three aspects of economics: (1) A description of economic institutions; (2) an analysis of economic theories; and (3) a consideration of the problems of policy. While these three aspects are not sharply separated, a distinction is readily seen.

The organization of material follows for the most part the usual pattern of introductory texts. The book is up to date in the sense that notable new developments in economics are given proper consideration. At the end of each chapter references are listed and suggestions given for further reading. Here is given credit for the development of material presented in the chapter and a statement of appraisal by Bye and Hewitt on references is listed.

There are any number of facts to illustrate the application of principles and policies. There is little hesitation on the part of the authors to point out what, in their opinions, are bad as well as good features in certain aspects of our economy. For instance, in their chapter on the organization of business enterprise, some discussion is given to Veblen's criticism of the production system.

While Veblen exaggerated the anti-social aspects of American business, and in so doing unjustly maligned many thousands of conscientious enterprisers, it is true that there are widespread business practices that are not consistent with the general welfare. Through persuasive advertising, products are promoted and sold that are of little moral worth, or that may even do harm. It is to be doubted whether the enormous increase in the smoking of cigarettes that has taken place in the United States, fostered by a vast amount of conspicuous advertising, has really benefited the American people; but it has yielded immense profits to tobacco manufacturers.<sup>1</sup>

Their material on the *Social Aspects of Corporation Finance and the Securities Markets* is among the best I have found in any introductory textbook, likewise, their chapter on *Risk, Insurance, and Speculation*. Many textbooks do not illustrate too well the practice of hedging. In taking three pages to discuss this they leave the student feeling that he has a good understanding of this practice.

It is not surprising that quite a little space is devoted to monetary problems in view of the present inflationary trend in today's economy. Problems of inflation, deflation, and cheap money "fallacy" are discussed. However, it seems to me that they have missed an excellent opportunity to apply these problems more directly to the activities of our present economy in order to get the material across.

A satisfactory discussion of some current banking problems is presented. Some of the weaknesses mentioned are (a) the unsatisfactory performance of our banking system, (b) confusion of functions, (c) confusion of public with private banking, (d) loss of control over the credit markets, and (e) the influence of the federal treasury in banking.

<sup>1</sup> P. 119.

John Maynard Keynes and his *macro-economics* are introduced in their chapter on the *Level of Income and Employment*. They further show the Keynesian influence in their material on interest. Keynes' theories of liquidity preference, hoarding and dishoarding, along with his *transactions motives*, *precautionary motives*, and *speculative motives*, are presented as part of the theory of interest.

One chapter not found in many other textbooks deals with the problem of inequality and the personal distribution of income. Obviously quite a little research has gone into the obtaining of figures for their study. Due credit is given to their sources of information. A program for a more desirable division of income is suggested which includes (a) the guaranteed minimum and the development of talent, (b) the principle of incentive and the criteria of earned income, and (c) the principle of social surplus—surplus income should be used for purposes that will contribute to the common welfare.

Their chapter on *International Economic Policies* brings us up to date on the progress being made toward a resumption of freer world trade and a more prosperous world economy. They point out and discuss America's contribution toward the reconstruction of Europe by means of lend-lease, UNNRA, the Marshall Plan, and the Truman Point 4 program.

In their study of labor organization, they follow closely the pattern of other economics texts, although theirs seems to be a more philosophical approach to the whole labor-capital problem.

In discussing social security, they not only cover very well the current practices, but they also suggest further improvements. They point out the changing attitude of economists toward the roll of government in the economy—that greater control by the government both through direct regulation and through its own spending is necessary and desirable.

The usual pattern is followed in the discussion of socialism and communism. A final chapter, however, deals with the prospects for capitalism and expresses a little different note than is found in most introductory books. The prophecies of Karl Marx, Nicolai Lenin, Joseph Schumpeter, the Classical School, and J. M. Keynes are given. They close by giving several good suggestions as to how general economic planning could be compatible with capitalism. They confess that such reforms "constitute a long program, evolutionary in character."<sup>2</sup>

It seems to me that much has been accomplished toward writing a book covering adequately both principles and applications. Undoubtedly there are many others who have felt the same as the authors, that there has been a need for combining the foundation course with the applied.

*Southern Missionary College*

GEORGE T. GOTTF

*Atomic Power: An Economic and Social Analysis.* By Walter Isard and Vincent Whitney. New York: Blakiston Co., 1952. Pp. x, 235. \$4.75.

The purpose of this book is to heighten the understanding of and to stimulate questions and answers on the effect of Atomic Power on *Location of Industry* and on the *Economic Development of Backward and Advanced Areas*. Stated

<sup>2</sup> P. 1027.

thusly, the objective is broad; and because data on costs of Atomic Power are not available, except in conjectural form, analysis of the economic impact of Atomic Power must be founded *completely* upon a deductive framework.

The methodology, which is thus inherent to the objective of this book, makes the task of the authors a most difficult one. Certainly the myriad of assumptions available to the writers leaves room for selective error and concomitantly debatable conclusions. In fact, my only concern arises in regard to the postulate which forms the locational part of their analytical system that deals with industrial location.

To our authors, the answer to the question, *How can the effect of Atomic Power on Location of Industry and on the Development of an Economy be analyzed*, appeared to lie in emphasizing that critical cost to which atomic power would have to fall in order to be used effectively in complement with and/or substitute for present day types of power. Clearly, such level of cost of power would (a) cause relocation of certain industries, (b) not affect others materially, (c) advance the economy of one country slightly, and (d) perhaps be of material benefit to another. In analyzing the several types of cases, advantage would be gained by classifying (1) industries according to the degree of importance of fuel costs on location, and (2) countries according to their stage of economic development. If, in investigating these problems, the sociological (cultural) resistances to Atomic Power are appraised, in addition to the economic implications of low cost power, a well rounded treatise appears. Certainly the authors achieved this rounding, and the genius of their handling will be patent to those who read the book.

In their analysis of the locational impacts of atomic power, the authors, however, appear to have oversimplified the problem. At no place in the text is the reader made fully aware of the possibility that location of industry may be due to factors other than cost. For example, the basing point system of pricing and its effect on location is not mentioned in the discussions of the cement industry and the iron and steel industry. The importance of time-of-delivery, contact advantages, and convenience (or accessibility) of locations, are assigned, by definition, to the transfer cost factor. And finally, the locational interdependence of firms is disregarded.

There is little doubt that appraisal in terms not only of cost but also demand factors (such as, locational interdependence-price practices, shape of the marginal curves, etc.) would be almost insuperable. Indeed to the extent that the authors want to direct their attention to the impact of atomic power on industrial development, such appraisal would not be vital. But, if penetrating insight into the locational effects of atomic power on specific industries is to be gained, predicated the analysis on such statement as: "If production costs are assumed alike for all commodities at all sites, the problem of location is reduced to that of finding the site involving the least transfer costs," constitutes a rather severe abstraction; it involves selection of a basic assumption of location factors which lacks generic scope.

While this belief of complaint detracts somewhat, in my mind, from part of

the book, the postulated in-lineness with the preponderant mass of textual literature on plant location (and with the Cowles Commission study on the *Economic Aspects of Atomic Power*) offers salve. Most assuredly, the extremely fine way in which the broader problem was handled offers proof of stimulation, and to which end the following brief outline points.

In Chapter One, certain technical aspects of nuclear energy are discussed. The masterful handling of this chapter provides the reader with valuable insight into Atomic Power.

In Chapter Two, conjectures of costs of atomic power are made. References are made to other studies, and the authors advance freely and sell their own expectations.

The third chapter cites location factors and establishes framework for the text. *Significantly*, it points out the fact that the belief of equal costs of Atomic Power at all places is in violent disregard of existing differences in capital costs.

Chapter Four establishes classification of industries according to Power Consumption, and attempts to appraise the impact of low levels of Atomic Power Costs on these differently classified industries. From time to time, in this chapter and later ones, I was struck by the different assumptions that were brought into play by the authors (such as, at one place, assumed equality in atomic power costs everywhere, and, at another place, assumed divergence therein); but, these methodological switches serve well to emphasize (1) the compendious task that was undertaken by the writers, (2) the several locational possibilities that may exist if and when atomic power becomes economically feasible, and (3) the purely conjectural state in which we find ourselves.

Chapters Five and Six investigate the Iron and Steel Industry and the Aluminum Industry, with basic inquiry into the locational impact thereon of atomic power. Analyses and conclusions are reminiscent of those obtained in the Cowles Commission study.

Chapter Seven explores the impact of cultural resistances on the possible use of atomic power. This chapter lays cornerstone to Chapters Eight and Nine, which deal with the effect of atomic power on the Economic Development of Diverse Countries.

Chapter Ten uses Brazil as a case study for further conjectures on the impact of Atomic Power on Undeveloped Countries. The treatment of capital costs and cultural resistances leads to conclusions which are in some contrast with those derived for the Cowles Commission.

The eleventh and final chapter summarizes and concludes the study. It emphasizes the following thoughts: One, introduction of Atomic Power, in the commercially usable sense, may worsen the relative position of Undeveloped Areas rather than improve it. Several bases exist for this deduction; (a) higher capital costs in undeveloped areas; (b) economies of scale in use of atomic power that will be gained in industrialized areas; (c) specialized skills in industrialized countries; (d) the greater probability of subsidization, and the smaller degree of cultural resistance to atomic power in industrialized countries. Two, the authors suggest that Soviet Russia (among industrialized nations) will gain most from

Atomic Power because of its growing population, its expanding market, its relatively immature economy, its labor mobility, and other like factors.

In retrospect, I heartily recommend this book to all. In my view, oversimplification of the basic assumption of location factors limits the validity of the analysis on this phase (locational) of the problem. To the extent that this complaint is valid, it is, nevertheless, of no effect on the authors' excellent appraisal of the impact of Atomic Power on Industrialized and Undeveloped Areas, and this appraisal is, in many respects, a step forward from earlier deductions. Finally, I want to note that this book indicates the value of joint efforts by economists and sociologists.

*Mississippi State College*

MELVIN L. GREENHUT

## STATE REPORTS

### ALABAMA

In the third quarter of 1952 Alabama business activity experienced a dip attributable to the steel strike of June and July. Evidence of the dip is found in the fact that Alabama industrial activity in July and August was 28 per cent below the level of a year ago, and 7 per cent below the third quarter level. In the United States as a whole during July and August the index of activity computed by the Board of Governors of the Federal Reserve System was only 5 per cent below the level recorded a year ago. The difference between the Alabama and United States figures is attributable to the relatively greater importance of steel production in Alabama and to a difference in weighting in the computation of the indices. In Alabama, third quarter steel ingot production was 31 per cent *below* the level recorded a year ago, but 23 per cent *above* the second quarter. In the United States, the recovery in steel ingot production was less rapid and complete.

Contract construction awards in Alabama during July and August were over 50 per cent above the level of the third quarter and the year-ago figure. While contract construction awards in thirty-seven Southern and Eastern States during July and August were up 11.5 per cent above the level of a year ago, they fell short of the third quarter figure by 5 per cent.

In both Alabama and the United States employment was affected little by the steel strike. (A striker is not counted as "unemployed"!) In consequence, Alabama non-agricultural employment during July and August was about the same as in the third quarter and up .7 of 1 per cent above the level recorded a year ago. Non-agricultural employment in the United States during July was roughly 1 per cent below the third quarter and the year-ago figures.

As usual, prices continue to edge upwards, with the Consumer Price Index for Birmingham up nearly 2 per cent during July and August from the second quarter and 4 per cent from the corresponding level, a year ago. The corresponding increases for the United States were smaller, being about 1 per cent and 3 per cent, respectively. Prices received by Alabama farmers in the third quarter were .7 of 1 per cent below the second quarter figures, but 4 per cent above the figures a year ago.

An interesting study has been released by the Department of Commerce on income payments in the several states. The figures indicate that the "Southeast," which here denominates the Southern states, has showed a far larger percentage increase in per-capita and total income than all forty-eight since 1929. In fact, per-capita income payments in the United States have increased 133 per cent since 1929, while in the "Southeastern" states they increased 212 per cent, and in Alabama 211 per cent. Total income payments in the United States increased 194 per cent and in the "Southeast" and Alabama, 296 per cent and 260 per cent, respectively, during the twenty-three year period. The burden of

these figures is that the South has advanced relatively to the nation in the past two decades. Alabama has maintained her position in per-capita income relatively to the South over the period. Nevertheless, in 1951 per-capita income payments in Alabama were only \$950, which compares with \$1075 for the "Southeast," and \$1584 for the United States. In the "Southeast" (which includes both Virginia and Florida) Alabama exceeds only Mississippi and Arkansas in per-capita income payments.

*University of Alabama*

JOHN HENDERSON

#### FLORIDA

Retail sales of goods and services in Florida in 1948 were higher than in any other Southern state on a per capita basis, according to a University of Florida study based on recently released Bureau of Census data. The state's per capita income was \$1081 compared with \$1385 for the entire United States; however, per capita receipts by retail establishments were 5 per cent above the national average. This is due primarily to the magnitude of the Florida tourist trade since visitors swell the sales volume without being counted in the state's population.

Wholesale trade per capita in Florida was, however, only about three-fifths of the national average. Further, the growth in this activity between 1939 and 1948 failed to keep pace with the growth of other business. The explanation probably lies largely in the peninsular nature of the state which is unfavorable to large scale wholesaling because it greatly restricts the directions in which goods can be shipped to markets.

Despite the arrival of the motel age, Florida's hotels in 1948 had four and one-half times as many rooms, 8 times the receipts, and 18 times as many employees as the tourist courts. Motel construction since 1948 has probably reduced this discrepancy, however. The typical tourist court brings few jobs to the neighborhood because of the work performed by owners and their families and by tourists themselves.

A recent survey by the Florida State Improvement Commission has disclosed several fields in which opportunities for new enterprise in the state appear promising. Beef processing and leather tanning facilities have failed to keep pace with the expansion of the cattle industry. The latter would open the way for shoe manufacturing, particularly along resort style lines, with a view to matching the success of the apparel industry established during the past decade in Miami.

Among other opportunities which appear promising is the establishment of brick production in peninsular Florida. No such plant now exists, but suitable clay deposits have recently been discovered. Sand lime brick could probably be produced economically in southern Florida if additional lime plants were built in the state. Florida now has only one lime mill and imports about 90 per cent of its requirements from other states.

Furniture manufacturing in Florida exceeds \$10 million annually. An important stimulus has come from sales to Latin America due to the transportation

advantage compared with inland locations. Further expansion of the industry, especially in non-upholstered lines, appears to be in prospect.

*Florida State University*

MARSHALL R. COLBERG

### GEORGIA

After allowance for the inflated dollar, citizens of Atlanta paid no more in city taxes in 1950 than they did in 1942, according to a study prepared by Dr. Ernst W. Swanson, of Emory University, for the Atlanta League of Women Voters. Atlantians paid the same amount, \$2.38 per \$100 of income, in both years. The findings on city taxes alone hold true for combined Atlanta and state taxes. The per capita amount paid in city and state taxes for both 1942 and 1950 was \$4.91 out of every \$100. There was a significant increase, however, where city, state and Fulton taxes are considered. In 1942, an Atlanta taxpayer paid out \$6.73 of every \$100 of income to all three governments; by 1950 this grew to \$7.85 of every \$100, or nearly 8 per cent of income.

Dr. Swanson's study also compared Atlanta's tax situation with that of six other cities: Birmingham, Columbus (Ohio), Louisville, Memphis, Rochester and San Diego. After adjustment for the decline in the value of the dollar, Atlanta's "real" city revenue, including both taxes and other revenue receipts, rose \$2,200,000 in the period covered. Tax collections alone, similarly adjusted, decreased \$446,000 in Atlanta. There was a decrease in four other cities. Louisville, on the other hand, had a \$1,511,000 increase. In property tax rates, Atlanta was below the average of the other six cities. In 1950 the rate for Atlanta was \$16.50 per \$1,000, while the weighted average for all seven cities was \$20.43.

Georgia again ranked first among the southern states in the production of pulpwood for 1951, according to U. S. Forestry Service figures. Receipts of domestic pulpwood at all mills in the United States in 1951 totaled 25,123,000 cords, of which the South furnished 14,061,100 cords, or 56 per cent of the total. Georgia, with 2,370,000 cords, accounted for 17 per cent of the South's and 9 per cent of the Nation's cut for that year. Georgia also led the South in 1950 with 2,221,300 cords. Pulpwood was produced in 153 of the 159 counties of Georgia. In addition to its prominence as a pulpwood producer, Georgia also is one of the leaders in the pulp and paper manufacturing field, with twelve pulp and paper mills in operation in the state and four additional plants currently under construction.

Tobacco sales for the 1952 season at the 19 markets in south Georgia brought growers \$70,106,303 for 142,907,011 pounds of bright leaf tobacco, according to the final report of sales of the Georgia Department of Agriculture. The money income compares closely with \$70,859,761 paid for 155,033,010 pounds in 1951. The 1952 crop brought an average price of 49.06 cents per pound, however, as compared with an average price in 1951 of 45.70 cents. Of the total sold on the Georgia market, 10,693,177 pounds were grown in other states.

The official opening in November, 1952, of the Georgia Ports Authority docks at Savannah, Georgia's first state docks, marks a major step in efforts to increase the importance of Georgia's ports. Improvements in shipping facilities also have

been made recently and are continuing at Brunswick, and solicitation of freight is being intensified. The percentage of total United States exports and imports moving through Savannah, which in 1905 ranked fifth in the value of shipping handled by Atlantic ports, had, by 1950, dropped more than at any other South Atlantic port. The new State docks are located at the former Quartermaster Depot, which was purchased by the Georgia Port Authority for \$808,100. Bonds for improvement in the amount of \$5,500,000 have been issued by the Authority.

*Emory University*

ALBERT GRIFFIN

#### KENTUCKY

Severe and sustained drought conditions prevailed throughout the entire growing season over much of the state, but more especially over the western half. Corn and small grains, hay, and pastures were hard hit, but tobacco came through remarkably well (after all, it is a weed). The United States Department of Agriculture's tobacco branch has estimated total burley production for the 1952 season at 606,000,000 pounds. Kentucky's share will probably fall slightly under that of last year because of the lack of rain. The support price of \$49.50 per hundred pounds is the second highest ever set, only thirty cents under that of the 1951 crop. Minimum grade-by-grade prices are established for the approximately 125 classifications into which the tobacco is graded before being sold.

In the school year 1952-53 the state will support primary and secondary public school education at the rate of \$38.41 for each child in the six to eighteen year age group. This is only one cent higher than the per capita aid of last year. Twenty years ago the per capita was \$7. Ten years ago it was \$17.69, and five years ago it was \$30.05.

The efforts of the state Department of Revenue to expand its income tax rolls is showing satisfactory results. The number of Kentuckians paying individual income taxes for 1951 increased by 49,838 over 1950. A total of 264,707 individuals, or 89.9 persons per 1000 population, filed returns for that year. They paid an average of \$47.17. These data do not include returns by non-residents who earn money in Kentucky. Jefferson County, of which Louisville is the county seat, led the state with 93,202 persons making returns. Total collections to June 30 were \$12,545,149, compared with \$10,914,125 for the previous year, an increase of almost fifteen per cent.

Jobless-pay benefits reached a record monthly high of \$1,846,368 in Kentucky during August. These payments reflected the heavy claims load for July. The average payment for a week of total unemployment reached a peak of \$21.39 during August. New claims for payment in August dropped to 7,969, down 61 per cent from the 20,465 filed during July.

*University of Kentucky*

RODMAN SULLIVAN

#### LOUISIANA

The newly elected governor followed through with his campaign promises in the 1952 legislative session by reducing taxes on gasoline and increasing personal

exemptions from state income taxes. Gasoline taxes were reduced 2¢ per gallon (from 9¢ to 7¢), and the personal exemptions from state income taxes were doubled (from \$2,500 to \$5,000 for married persons). In spite of these tax reductions, state appropriations for the 1952-54 biennium were at an all-time high. Appropriations from state funds for 1952-54 amounted to \$531,635,528 as compared to \$477,326,897 for the 1950-52 period. The total state budget from all sources (including federal grants) increased from \$627,206,387 for 1950-52 to \$725,688,949 for the 1952-54 period.

The monthly index of Louisiana Business Activity (as prepared by the Division of Research, College of Commerce, Louisiana State University) for August stood at 251 (1937-39 = 100). Except for very minor declines, this level was reached by a steady climb from the August, 1951 level of 233. Of the components in this composite index, the most significant gains were shown in industrial electric power consumption and payrolls. Other indicators such as bank debits and freight carloadings showed no significant gains from their 1951 level. Although economic activity expanded during the year, benefit payments under unemployment compensation laws in August, 1952, were about 4% above the August, 1951, payments. Sales tax collections for August were 7.6% above the level for the previous year, while total state tax collections exceeded the 1951 collections by approximately 3%. Total bank debits in Louisiana's sixteen largest cities exceeded the August, 1951, level by 4%, while total bank deposits increased 6.5%. Three of the sixteen cities recorded declines from the previous year in bank debits, but all showed gains in bank deposits (one city increased 23%). During the three months ending September 1, 1952, 209 new corporate charters were issued in the state with authorized capital of \$8,701,000; for the same three months in 1951, 174 new charters authorizing \$7,470,000 had been issued. Fewer corporations representing less capital were dissolved in this period in 1952 than had been the case in 1951. The indicators for building constructions showed conflicting trends in this segment of the state's economic life. Building permits issued decreased from the 1951 level, but the value of building contracts awarded in the late summer months of 1952 was above the 1951 awards.

*Louisiana State University*

W. H. BAUGHN

#### NORTH CAROLINA

A quarter of a century ago North Carolina had already established herself as the leading manufacturing state of the Southeast. So far as trade and finance were concerned, however, she remained dependent upon outside centers. Richmond on the north and Atlanta on the south were the important adjacent cities through which she bought goods, and the banks of those cities greatly overshadowed any of which she could boast. The 1930's and 1940's witnessed the rise of a great new independent trade area in the Carolinas. This area centers in Charlotte, which, although still a small city of only 133,000 was doing in the late 1940's a volume of wholesale trade 55 per cent in excess of that of Richmond and almost half that of Atlanta.

Finance has closely followed the growth of trade. At the end of 1933, when

the country's banking system was just getting back on its feet after the great debacle, the deposits other than interbank of North Carolina banks were less than  $\frac{1}{2}$  of 1 per cent of those of the nation. They were 45 per cent below those of Virginia banks and 20 per cent below those of Georgia banks.

Eighteen years later, at the end of 1951, they were only 8 per cent below the deposits of Virginia banks and were 5 per cent above those of Georgia banks. The factors of growth in deposits over this period were as follows:

United States banks.....	4.4 times
North Carolina banks.....	9.6 times
Virginia.....	5.8 times
Georgia.....	7.4 times

All these states were improving their positions in the national economy during this period, and North Carolina's tremendous growth did not, owing to the low level from which it began and the state's larger population, put her by 1951 upon an equal per capita level of bank deposits with Virginia and Georgia. The following figures show the percentage of bank deposits other than interbank in the nation that were held in the banks of these states in 1933 and in 1951.

	1933	1951
	%	%
North Carolina.....	.495	1.08
Virginia.....	.895	1.17
Georgia.....	.618	1.02

The possession of liquid capital is by no means the sole criterion of economic well-being. It does, however, indicate the extent to which a region is able to provide for the financial requirements of its trade. That the Carolinas, and North Carolina in particular, now constitute a trade area with its own adequate financial institutions seems quite clear. This conclusion is supported by the facts with regards to the volume of correspondent banking business being done by North Carolina banks. At the end of 1951 North Carolina banks held 1.80 per cent of all interbank deposits in the country, although they held only 1.08 per cent of all other deposits. Approximate volumes of interbank deposits by states were as follows:

North Carolina.....	\$273,000,000
Virginia.....	206,000,000
Georgia.....	240,000,000

Of the fifty banks holding the largest amounts of interbank deposits in the United States two are in North Carolina. One of the two, ranking 32nd in the nation, has its entire business in Charlotte. The other, ranking 44th, has offices in six North Carolina cities including Charlotte. Among the fifty banks are two in Atlanta, ranking 33rd and 36th and one in Richmond, ranking 49th.

*Dawson College*

C. K. BROWN

### SOUTH CAROLINA

According to the South Carolina Department of Labor, the textile industry produces almost three fourths (72.1 per cent) of the State's industrial products. It pays 75.9 per cent of all wages, and has 49.8 per cent of all capital investment in industry.

The textile industry in South Carolina includes 299 mills with a capital investment of 431.6 million dollars and an annual output valued at 1.6 billion dollars. These plants employ 130,838 workers and have an annual payroll of 346 million dollars. These 299 mills operate 5.9 million spindles and consume 2.2 million bales of cotton annually.

South Carolina textile mills consume almost three times as much cotton as is produced within the state. In 1951, South Carolina produced 871 thousand bales of cotton, or 39.6 per cent as much as processed by its mills.

The post-war development of new mills in South Carolina has departed radically from the old fashioned multi-story, multi-window factories built prior to 1945. The new plants are usually of one-story, windowless, air conditioned, and with tiled interiors.

Wages of textile workers have almost quadrupled since 1937. Average daily wages of South Carolina textile plants in 1937 was \$2.94 and \$9.58 in 1951. The annual income of textile workers increased from \$756.05 in 1937 to \$2,645.27 in 1951. These figures do not include salaried employees.

The South Carolina Commissioner of Labor reports that during the fiscal year ending June 30, 1951 fewer man-hours of employment were lost due to labor disputes than was true of any other industrial state in the union. Continuation of the present trend indicates that South Carolina will have even fewer man-hours lost in 1952.

South Carolina plants produce almost all kinds of textile products, cottons, woolens, hair, and a vast array of synthetic and combinations of synthetic and natural fibers. A few of the trade names for textile fabrics unheard of a few years ago are: Millium, cuenella, orlon, vincinette, amoreta, acrilon, shantung, dacron and fiberglass.

A relatively newcomer to the textile field is fibrous glass. It is especially useful as an insulating material against electricity, heat, sound and as a reinforcement for plastics, as well as many consumer products such as drapes, slipcovers, etc.

Several of the large textile companies have research laboratories in South Carolina for the development of new techniques. In cotton alone, research investment, public and private, amounts to some 12 million dollars a year. Many millions more are spent on research programs of man-made fiber materials and processes.

At one time there was fierce competition between the fiber products. There were sharp battles between cotton, wool and synthetic fibers. Each attacked the other and sought to displace it in trade. In recent years the lines of usage have blurred because of the practices of blending fibers. The attack by any one group tends to boomerang against the attacker because of their joint use. It is widely

recognized now that no one fiber has all of the good qualities. All fibers have honored places in the giant textile industry in South Carolina.

*Clemson College*

JAMES F. MILES

#### TENNESSEE

The Tennessee economic climate continues to be favorable for those launching new business ventures, as indicated by the trend in new company formations this year. Industrial expansion too has been high although it has not kept pace with the record-breaking growth achieved during 1951. More than \$26½ million have been expended or committed through the first half of 1952 for 40 new industrial enterprises and 28 expansions by plants already operating in the State.

The total for the first six months of 1951 was \$28 million. The 66 projects announced throughout the State compare with 88 projects announced during the comparable period in the previous year. Of these, 57 were new plants and 29 were expansions. The best single explanation of the slight decrease is that the first half of 1951 was a busy time of gearing for defense activity. This spurt has largely leveled off now. The new industries involve a total investment of almost \$12 million and the expansions represent over \$14½ million. More than one-third of the new plant involves individual investments of \$25,000 or less.

These new industrial operations and expansions will provide approximately 4,200 new jobs to Tennesseans. The announced new plants are widely distributed among the state's three major divisions, with 15 each locating in East and Middle Tennessee and 10 in the western part. Industrial growth, either in new plants or expansions, was reported from 35 different cities and towns. Of these, at least 27 have at least one new industry.

The South experienced a three-month drought during the summer and its total cost to farmers will exceed a billion dollars. Tennessee was exceedingly hard hit. Despite this and the fact that the sales prices of some products have declined, Tennessee farmers are headed for another half-billion dollar year in cash receipts. In 1951, they received a total of \$515,883,000 from farm operations. This was a sizable increase over the 1950 estimated farm cash income for the state which was \$427,749,000. The drought generally had little immediate effect on industry, employment, and retail trade within the State. The long-run effects, particularly on pastures and on the trend toward diversification, will be much more serious and soil conservation experts fear that it "may take 10 years" to recover from the three-month drought.

Certain Tennessee crops suffered more than others despite Government emergency action. For this reason their producers will suffer great income losses. Among the speciality crops, it is estimated that the Tennessee 1952 honey crop will be about one-half as much as the 1951 crop because of the drought. In 1951 bee-keepers in the state produced 4,676,000 pounds, which was valued at \$1,347,000. The beeswax brought in \$21,000 in addition. The livestock industry will be the hardest hit among the major agricultural products. The dollar volume may not be down so much for the year as the farmers rushed their livestock to

the stockyards because of the parched pastures. However, this may well affect the production of cattle in the fourth quarter of 1952 and the first half of 1953.

Financially, Tennessee continues to prosper. Revenue collections from all sources show increases from the previous year. Tennessee ended the 1951-52 fiscal year with an accumulated general fund surplus estimated at approximately \$17,560,267. The surplus in the sinking fund stood at \$7,835,516 after meeting obligations on the debt retirement fund. There is also a surplus as of June 30 of \$3,787,779 in the highway department. The 1951 legislature authorized an appropriation of \$10,000,000 from the general fund surplus to continue the administration's rural roads program during the second biennium. Under this program, Tennessee's rural roads have reached the 4,843 mile mark—already built or contracted for by the end of July.

Thus Tennessee is keeping apace with the business expansion that has taken place in the State since the end of World War II. Availability of markets has been the key to the localization of new plants in the State. The rising standard of living of Tennesseans, indeed of the people of the entire Southern area, has opened up markets which formerly were non-existent.

*George Peabody College for Teachers*

JAMES E. WARD

#### VIRGINIA

Latest available statistics indicate improvement in general business conditions in Virginia as compared with a year ago. The pattern follows that of the Fifth Federal Reserve District in which the evidences of a substantially better business outlook for the short-term ahead are 1) an increase in the announced construction of military facilities, 2) a recovery in the bituminous coal industry,<sup>1</sup> 3) a higher level of shipments in the rayon industry, 4) a new high level in retail furniture sales, and 5) a rise in business loans of the banks. One of the most encouraging signs has been the sharp upward trend in department store sales during the past few months. About a year ago, department store sales completed one of the most amazing readjustments on record. It took the form of inventory reduction for the purpose of bringing stocks back into line with a more normal level of sales. The trend has now been reversed, and sales are showing a substantial increase. Department store sales executives in recent months have been building up inventories because 1) the average store has enough liquid cash to finance its inventory needs, 2) rising prices of raw materials will make them pay more later, and 3) bright sales prospects lie ahead. This upward trend in retail sales is sparked mainly by women's clothing which is a carry-over from the summer months when the televised political conventions and the torrid weather kept people out of the market. The agricultural picture also remains bright. While the outlook for the major crops appears to be below last year, prices are adjusting at levels which give farmers approximately the same net income as last year.

<sup>1</sup> At the time this is written the industry is threatened with a strike because of the refusal of the Wage Stabilization Board to approve the increase agreed upon by the industry.

Virginia's fiscal condition remains sound in spite of heavy pressures. According to the report of the Comptroller for the fiscal year ending June 30, 1952, total expenditures amounted to \$362 million as against total revenues of \$359 million, or an apparent deficit of \$3 million. If only the General Fund be considered—the fund from which the state pays its own costs—total revenues into the fund amounted to \$121 million and total expenditures out of the fund were \$134, an excess of \$13 million. This was due to certain amounts spent from the unappropriated surplus for education. The unappropriated surplus at the beginning of the year was \$72 million, and at the end of the year \$59 million. The most significant decrease in revenues was from the income tax both individual and corporate which amounted to about \$3 million. There were sharp increases in the motor vehicle fuel tax, payroll taxes, and taxes on public utilities. Liquor sales increased from \$89 million in 1951 to \$101 million in 1952. Of the total \$362 million expenditures, \$265 or 66 per cent went for four functions as follows: highways, \$76 million; ABC Board, \$82 million; education, \$89 million; and welfare, \$18 million. An analysis of the state's debt structure shows that the gross debt as of June 30, 1952, was \$12 million against which there was an accumulation in the sinking fund of \$9 million, leaving a net debt of \$3 million. The sinking fund investment account is set up so that the accumulations will wipe out the entire debt by time of its maturity.

*University of Richmond*

HERMAN P. THOMAS

## PERSONNEL NOTES

Hobart Adams has been appointed instructor in business at Delta State Teachers College.

Robert S. Adden, assistant professor of business administration at The Citadel, is on leave for one year of graduate work at the University of North Carolina, where he has been appointed a part-time instructor in accounting.

Deck W. Andrews, of Wofford College, received his MSBA degree from the University of Georgia in June 1952.

Charles P. Anson, of Alabama Polytechnic Institute, attended the General Motors Educators Conference at Detroit in August.

Karl E. Ashburn, formerly head of the Department of Economics at Western Kentucky State College, has become head of the Department of Commerce at McNeese State College.

L. M. Bauknight was promoted to associate professor of agricultural economics at Clemson College in July.

E. V. Bowden has been appointed assistant instructor at Duke University.

V. A. Boyd was promoted to associate professor of rural sociology at Clemson College in July.

Royall Brandis, instructor in economics, Duke University, has resigned to accept a position as assistant professor of economics, University of Illinois.

Don S. Bunch has returned to The Citadel as assistant professor of business administration after two years in graduate school and in business.

Allan Carter, of Yale University, has been appointed assistant professor of economics and research associate at Duke University.

Robert G. Collins has been appointed instructor in marketing at the University of Alabama.

Robert T. Collins has resigned his position at Kansas City University to accept an assistant professorship in economics at Alabama Polytechnic Institute.

Charles E. Crouch has been promoted to professor of accounting and business administration at Vanderbilt University.

Sherman F. Dallas has been appointed assistant professor of industrial management at the Georgia Institute of Technology.

Robert L. Dickens has been promoted to assistant professor of accounting at Duke University.

W. H. Endy has been appointed an instructor in accounting at Louisiana State University.

Daniel Everts has resigned as instructor in business administration at Southern University.

George Fair, after a year's leave of absence to continue graduate work, is again an instructor in accounting at Louisiana State University.

Rashi Fein has received an appointment as lecturer in economics in the School of Business Administration and research associate in the Program Planning Section of the Division of Health Affairs at the University of North Carolina.

Dan I. Fellers, formerly an instructor in accounting at Louisiana State University, is now a member of the staff at Southwestern Louisiana College.

William C. Flewelling is absent on leave from the University of Alabama to work on his doctorate at Columbia University.

William A. Flinn, of the School of Industrial Management, Georgia Institute of Technology, is on leave of absence to complete work for the doctorate at Ohio State University.

Elton Franklin, formerly at the University of Alabama, has been appointed instructor of economics on extension at Mississippi Southern College.

James D. George has been appointed instructor in economics at Southern University.

C. M. Gittinger, who studied at New York University during the spring and summer terms of 1952, has resumed his teaching of marketing and merchandising at the University of South Carolina.

Vance Gray has been appointed instructor in business administration at Southern University.

Melvin L. Greenhut, formerly with Alabama Polytechnic Institute and more recently with the Birmingham District Office of Price Stabilization, has been appointed associate professor of economics at Mississippi State College.

J. W. Griffin, who resigned to complete his doctorate at Indiana University, has been reappointed assistant professor of industrial management at the Georgia Institute of Technology.

D. H. Guyton is now instructor in accounting at Blue Mountain College.

R. M. Havens has returned to the University of Alabama after a year's leave of absence during which he served with the Economic Cooperation Administration in Washington.

Harold J. Heck, professor of business administration of Tulane University, is on a year's leave of absence to teach in Japan under a Fulbright Fellowship.

Dolores Henderson has been appointed instructor in business administration at Southern University.

A. J. Hill has been promoted to associate professor of accounting at Alabama Polytechnic Institute.

Lewis E. Hill, assistant professor of economics at Furman University, is on leave of absence to do further graduate study at the University of Texas.

John D. Holmes has resigned as instructor in economics at Southern University.

James E. Ingram is serving as acting assistant professor of economics at the University of North Carolina.

Harlan C. Johnson has been appointed instructor in business administration at Southern University.

John Kennedy, of Alabama Polytechnic Institute, attended the General Motors Educators Conference at Detroit in August.

Robert Kvam, formerly at the University of Colorado, has been appointed instructor in accounting at Louisiana State University.

J. C. Lassiter, M.B.A. from Harvard University, is serving as instructor in economics at Guilford College during the current academic year.

Henry A. Leslie has returned to the University of Alabama after a year's service with the Office of Price Stabilization.

Roy Allen Lieurance, formerly area supervisor for adult education for the Mississippi State Department of Education, is now teaching economics at Mississippi State College for Women.

John H. MacKay has been appointed a part-time instructor in accounting at the University of North Carolina.

George E. Maddox, assistant professor of industrial management at Georgia Institute of Technology, has returned from active duty with the Army.

L. D. Malphrus was promoted to associate agricultural economist at Clemson College in July.

Jesse W. Markham has been promoted to associate professor of economics at Vanderbilt University.

Robert L. Martin, professor of social science at Middle Tennessee State College, has been recalled to active duty by the Navy.

Thomas B. Martin has returned to his position as head of the Department of Business at Delta State Teachers College, after being on leave to do graduate study.

William M. Merrill, assistant professor of business administration at Mississippi State College, has been given an extension of leave to finish his graduate work at Ohio State University.

Lloyd F. Morrison has been named head of the Accounting Department at Louisiana State University.

Cecil C. McGee has accepted a position as assistant professor in accounting at Alabama Polytechnic Institute.

Herbert R. Padgett has been appointed instructor in geography to assume the position of J. E. Bagwell while the latter is in New Zealand on a Fulbright Fellowship for the calendar year 1953.

J. Reid Parker, assistant economist, resigned from Clemson College in September to work toward a Ph.D. degree at Iowa State College.

James M. Parrish is serving as acting assistant dean of the School of Business Administration at the University of North Carolina.

James P. Payne has been promoted to associate professor of economics at Louisiana State University.

Walter Pearce has been appointed assistant instructor at Duke University.

Evelyn Pope has been promoted to assistant professor of secretarial science at the University of South Carolina.

Charles F. Poston is serving as part-time instructor in economics at the University of North Carolina.

Richard Powers, formerly regional economist with the Office of Price Stabilization in Richmond, has been appointed academic and administrative dean at Alabama College.

Olin S. Pugh has been promoted to assistant professor of economics at the University of South Carolina. Mr. Pugh, on leave during the year 1951-52 under a General Education Board fellowship, continues his leave during the current year as a research assistant at Duke University.

Isaac N. Reynolds, instructor in accounting at the University of North Carolina, is assisting Professor John T. O'Neil of that institution in the Business Executives' Research Committee program sponsored by the Committee for Economic Development.

Harris M. Rollins, Jr. has been appointed instructor in business administration at Southern University.

Harry Ross, who completed his M.B.A. degree at Harvard University last summer, has been appointed instructor of business and economics at Mississippi Southern College.

Earl A. Saliers has retired from his position as professor and head of the Accounting Department at Louisiana State University.

Howard G. Schaller, research associate, Duke University, has resigned to accept an appointment as assistant professor of economics, University of Tennessee.

David J. Schwartz, instructor in business administration at Mississippi State College, has been given an extension of leave to finish his graduate work at Ohio State University.

Richard Selden has been appointed assistant professor of economics at Vanderbilt University.

F. DeVere Smith, associate professor of economics in charge of secretarial training at the University of South Carolina, was awarded the Ph.D. degree from the University of Kentucky in June 1952.

Allan T. Steele, formerly at University of Tulsa, has been appointed associate professor of accounting at Northwestern State College of Louisiana.

H. Ellsworth Steele, of Alabama Polytechnic Institute, participated in the Goodyear Industrial Relations Forum at Akron in July.

David Stein has been appointed assistant professor of economics and business administration at Vanderbilt University.

Harold L. Streetman, assistant economist, returned to Clemson College in August after spending a year in graduate school at Ohio State University.

Mary F. Suggs has resigned as assistant professor of business administration at Southern University.

Calvin C. Taylor, of the Agricultural Finance Division of BAE, is stationed at Clemson College temporarily for a special study of taxation and land values.

George W. Tomlin, who has been serving part-time with the Office of Price Stabilization, has returned to the University of South Carolina on a full-time basis.

B. J. Todd was promoted to associate agricultural economist at Clemson College in July.

David W. Townsend, after a year's leave of absence to do graduate work, is again an instructor in economics at Louisiana State University.

Curt Victorius, head of the Department of Economics, Guilford College, was one of fifty recipients of Economics in Action fellowships at Case Institute of Technology in Cleveland, Ohio last summer, studying economics in business and learning new techniques for communication of economics knowledge.

George T. Walker, professor of business and dean of the School of Applied

Arts and Sciences, Northwestern State College of Louisiana, was awarded a fellowship in the College-Business Exchange Program of the Foundation for Economic Education. He was placed with E. I. du Pont de Nemours and Company in Wilmington, Delaware, for six weeks in the summer.

Norman E. Weir, assistant professor of economics at Mississippi State College, has been granted a leave for graduate work at the University of Kentucky during 1952-1953.

Herbert Willis has resigned as instructor in business administration at Southern University.

Paul Wischkaemper has rejoined the staff as assistant professor in economics at Alabama Polytechnic Institute after a leave of absence doing graduate work at the University of North Carolina.

Norman J. Wood has been appointed instructor in economics at the University of Tennessee.

James S. Worley, of Wofford College, taught economics during the 1952 summer session at Millsaps College.

\* \* \*

The following names have been added to the membership of the Southern Economic Association:

John W. Dixon, Bureau of Labor Statistics, Rm. 664—50 Seventh St. N. E., Atlanta 5, Georgia.

R. F. Ericson, associate professor of economics, Stetson University, DeLand, Fla.

James J. Young, instructor in economics, School of Arts and Sciences, Clemson Agricultural College, Clemson, S. C.

## NOTE

### THE JOURNAL OF INDUSTRIAL ECONOMICS

*The Journal of Industrial Economics* is a new Anglo-American Journal to be published by Blackwell's of Oxford. The Board of Editors is as follows:

P. W. S. Andrews (General Editor): Official Fellow of Nuffield College, Oxford

Sir Henry Clay: Honorary Fellow and formerly Warden of Nuffield College, Oxford  
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Professor E. S. Mason: Dean Graduate School of Public Administration and Professor of Economics, Harvard University, U. S. A.; Vice Chairman, Research Advisory Board, Committee for Economic Development

The Journal will be especially devoted to the economic problems of industry and commerce. The intention is to publish articles of a scientific character, of value both to economists and to businessmen. It will offer a medium to the academic industrial research work increasingly being carried on both in America and Britain, and also to the material arising inside business itself—important internal memoranda on problems facing a particular business or industry, which are at present lost to a wider audience. The object will be a better knowledge of general business problems, and a contribution to economics as an academic subject and a guide to public and private policies through the development of economic doctrines concerning business structure and behavior.

It is expected that the early issues of *The Journal of Industrial Economics* will include articles on the following subjects:

The future availability of raw materials;

Forecasting demand, with special reference to a large electrical engineering firm;

Price policy in the British iron and steel industry;

Competition between gas and electricity;

Decision-making in business;

The control of capital expenditures;

The operation of particular cartels in the inter-war years;

The development and location of new products;

The economic factors in planning a large new steel works;

The employment of economists in business;

Problems in advertising;

Factors in locating an oil refinery.

The Journal will be issued three times a year, the first number appearing in Autumn, 1952. A year's issue will total 240 pages. The pre-paid annual subscription will be one guinea in English currency, or \$3.40 in U. S. currency, post free. The price of a single issue will be 10s or \$1.40 post free. Remittances should be sent to Messrs. Basil Blackwell, Broad Street, Oxford.

The Board of Editors will be pleased to consider any manuscripts of articles within the field of interest of the Journal. Articles in England should be sent to the General Editor, % Messrs. Basil Blackwell, 49 Broad Street, Oxford; those articles arising in America should be sent to Professor R. B. Heflebower, Northwestern University, Evanston, Illinois, U. S. A. All other communications should be sent to the publisher, Basil Blackwell.

P. W. S. ANDREWS  
*General Editor*

## BOOKS RECEIVED

- Channels of Employment: Influences on the Operations of Public Employment Offices and Other Hiring Channels in Local Job Markets.* By Murray Edelman and others. Champaign, Ill.: Institute of Labor and Industrial Relations, University of Illinois, 1952. Pp. 210. Paper, \$2.50. Cloth, \$3.50.
- Trends and Cycles in Corporate Bond Financing.* By W. Braddock Hickman. New York: National Bureau of Economic Research, 1952. Pp. 37. Paper, 75¢.
- The Economics of Annual Improvement Factor Wage Increases.* By Jules Backman. New York: New York University Schools of Business, 1952. Pp. 72.
- Charting Statistics.* By Mary Eleanor Spear. New York: McGraw-Hill Book Co., 1952. Pp. xii, 253. \$4.50.
- Welfare Economics and the Theory of the State.* By William J. Baumol. Cambridge, Mass.: Harvard University Press, 1952. Pp. vii, 171. \$4.25.
- Statistics for Sociologists.* By Margaret Jarman Hagood and Daniel O. Price. Rev. ed. New York: Henry Holt and Co., 1952. Pp. xi, 575. \$5.75.
- Agricultural Prices.* By Frederick Lundy Thomsen and Richard Jay Foote. 2nd ed. New York: McGraw-Hill Book Co., 1952. Pp. xi, 509. \$6.50.
- Consumer Problems.* By Arch W. Troelstrup. New York: McGraw-Hill Book Co., 1952. Pp. xv, 458. \$4.75.
- Preliminary Inventories: Records of the National Recovery Administration.* Washington, D. C.: General Services Administration, National Archives and Records Service, 1952. Pp. viii, 226.
- Economics of Mobilization and War.* By W. Glenn Campbell. Homewood, Ill.: Richard D. Irwin, 1952. Pp. v, 196. Paper, \$2.50.
- The Administrator: Cases on Human Relations in Business.* By John Desmond Glover and Ralph M. Hower. Rev. ed. Homewood, Ill.: Richard D. Irwin, 1952. Pp. xvii, 723. \$6.00.
- Airline Passengers.* By the U. S. Department of Commerce and the Civil Aeronautics Administration. Rev. ed. Washington: Government Printing Office, 1951. Pp. iv, 66. Paper, 20¢.
- Explained Airline Traffic of the South (1949-1950).* By J. C. D. Blaine. Chapel Hill, N. C.: School of Business Administration, University of North Carolina, 1952. Pp. iv, 45.
- The Development of Economic Thought.* Edited by Henry William Spiegel. New York: John Wiley & Sons, 1952. Pp. xii, 811. \$6.50.
- Housing Market Behavior in a Declining Area: Long-Term Changes in Inventory and Utilization of Housing on New York's Lower East Side.* By Leo Grebler. New York: Columbia University Press, 1952. Pp. xvii, 265. \$4.50.
- Manufacturing in Florida.* Bureau of Economic and Business Research, University of Florida. Gainesville, Fla.: Bureau of Economic and Business Research, University of Florida, 1952. Pp. viii, 177.
- Highway Finance in New Mexico.* By Julian S. Duncan and others. Albuquerque, N. M.: Division of Research, Department of Government, University of New Mexico, 1952. Pp. iii, 31. Paper, 50¢.

- U. S. Government Bond Market Analysis.* By Leroy M. Piser. New York: New York Institute of Finance, 1952. Pp. i, 61. Paper, \$3.00.
- Memo to America: The DP Story: The Final Report of the United States Displaced Persons Commission.* Washington: Government Printing Office, 1952. Pp. xi, 376. Paper, \$1.00.
- Geography of Living Things.* By M. S. Anderson. New York: Philosophical Library, 1952. Pp. ix, 202. \$2.75.
- Procurement: Principles and Cases.* By Howard T. Lewis. Rev. ed. Homewood, Ill.: Richard D. Irwin, 1952. Pp. xi, 823. \$6.00.
- The Walsh-Healey Public Contracts Act.* By John V. Van Sickle. New York: American Enterprise Association, 1952. Pp. 35. Paper, 50¢.
- The Development of the Russian Iron and Steel Industry.* By Robert J. Holloway. Stanford, Calif.: Graduate School of Business, Stanford University, 1952. Pp. iv, 59. Paper, \$1.00.
- The Estimation of Income Payments to Individuals in North Carolina Counties.* By Lowell D. Ashby and Everett P. Truex. Chapel Hill, N. C.: School of Business Administration, University of North Carolina, 1952. Pp. vii, 54.
- Collective Bargaining Patterns in Spokane County, Washington.* By Ralph I. Thayer and Elizabeth F. Thayer. Pullman, Wash.: Bureau of Economic and Business Research, The State College of Washington, 1952. Pp. x, 256. Paper, \$2.50. Cloth, \$3.50.
- A Textbook of Law and Business.* By William H. Spencer and Cornelius W. Gillam. 3rd ed. New York: McGraw-Hill Book Co., 1952. Pp. xi, 838. \$7.50.
- Operating Results of Limited Price Variety Chains in 1951.* By E. R. Barlow. Boston, Mass.: Bureau of Business Research, Graduate School of Business Administration, Harvard University, 1952. Pp. vi, 33. \$2.00.
- Elementary Statistics: With General Applications.* By Morris Myers Blair. Rev. ed. New York: Henry Holt and Co., 1952. Pp. xiv, 735. \$5.50.
- Surinam: Recommendations for a Ten Year Development Program.* Report of a Mission Organized by the International Bank for Reconstruction and Development at the request of The Governments of The Netherlands and of Surinam. Baltimore, Md.: The Johns Hopkins Press, 1952. Pp. xxvi, 271. \$5.00.
- How to Write Advertising that Sells.* By Clyde Bedell. Rev. 2nd ed. New York: McGraw-Hill Book Co., 1952. Pp. xx, 539. \$6.00.
- Seamen Ashore: A Study of the United Seamen's Service and of Merchant Seamen in Port.* By Elmo P. Hohman. New Haven, Conn.: Yale University Press, 1952. Pp. xxiii, 426. \$5.00.
- Economic Development of the United States.* By John R. Craf. New York: McGraw-Hill Book Co., 1952. Pp. xi, 598. \$5.00.
- The Theory of Price.* By George J. Stigler. Rev. ed. New York: Macmillan Co., 1952. Pp. vii, 310. \$4.50.
- A Survey of Contemporary Economics.* Vol. II. Edited by Bernard F. Haley. Homewood, Ill.: Richard D. Irwin, 1952. Pp. xvi, 474. \$5.00.
- Valley of Tomorrow: The TVA and Agriculture.* By Norman I. Wengert. Knoxville, Tenn.: Bureau of Public Administration, University of Tennessee, 1952. Pp. xv, 151. Paper, \$1.50.

- Fringe Benefits 1951: The Nonwage Labor Costs of Doing Business.* Research study prepared by Economic Research Department, Chamber of Commerce of the United States. Washington, D. C.: Chamber of Commerce of the United States, 1952. Pp. 32. Paper, \$1.00.
- Enplaned Airline Traffic by Community: Calendar Year 1951.* By Civil Aeronautics Administration, U. S. Dept. of Commerce. Washington: Government Printing Office, 1952. Pp. 30. Paper, 15¢.
- A Brief Summary of the Southern Market: As Related to the Market in the State of Alabama and the Montgomery Metropolitan Area.* Prepared by Research Division, Montgomery Chamber of Commerce. Montgomery, Ala.: Montgomery Chamber of Commerce, 1952. Pp. 43.
- City Milk Distribution.* By R. G. Bressler, Jr. Cambridge, Mass.: Harvard University Press, 1952. Pp. xii, 398. \$6.00.
- Retail, Wholesale, and Service Trades in Florida.* Bureau of Economic and Business Research, College of Business Administration, University of Florida. Gainesville, Fla., 1952. Pp. x, 76. Paper, \$2.00.
- Comparative Economic Systems.* By Theo Surányi-Unger. New York: McGraw-Hill Book Co., 1952. Pp. x, 628. \$5.50.
- Salesmanship: Principles and Methods of Effective Selling.* By Alfred Gross. New York: Ronald Press Co., 1952. Pp. xiv, 562. \$5.50.
- Administration of National Economic Control.* By Emmette S. Redford. New York: Macmillan Co., 1952. Pp. xvii, 403. \$5.50.
- Re-Privatizing Public Enterprise.* Washington, D. C.: Chamber of Commerce of the United States, 1952. Pp. 38. Paper, 50¢.
- Conference on Research in Business Finance.* New York: National Bureau of Economic Research, 1952. Pp. xviii, 340. \$5.00.
- Hours of Work.* By William Goldner. Berkeley, Calif.: Institute of Industrial Relations, University of California, 1952. Pp. ix, 63. Paper, 25¢.
- The End of the I. T. O.* By William Diebold, Jr. Princeton, N. J.: International Finance Section, Princeton University, 1952. Pp. 37.
- Costs in Alternative Locations: The Clothing Industry.* By D. C. Hague and P. K. Newman. New York: Cambridge University Press, 1952. Pp. vii, 73. Paper, \$2.50.
- Monopoly and Social Control.* By Henry A. Wells. Washington, D. C.: Public Affairs Press, 1952. Pp. ix, 158. \$3.25.

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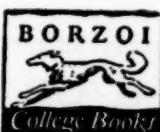
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